LBT-A17CDM/A27CDM D159CD/D209CD/D220CD

SERVICE MANUAL

US Model
D220CD
Canadian Model
D159CD
AEP Model
UK Model
D159CD/D209CD
E Model
A17CDM/A27CDM
Australian Model
A27CDM

These systems are composed of following models.
As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	A17CDM	A27CDM		D159CD		D209CD	D220CD
	E	E	AUS	CND	AEP/UK	AEP/G/UK/EE	US
Compact disc deck	HTC-D159	HTC-D259		HTC-D159		HTC-D209	HTC-D159
Stereo FM•AM receiver	STR-A17	STR-A27		STR-D159		STR-D209	STR-D159
Turntable	—				PS-LX52P (Except for EE)		—
Speaker system	SS-D170				—		SS-D170

PARTS LIST

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

EE : East European model
CND: Canadian model
G : German model
AUS: Australian model

Parts No.	Description	Remarks
1-465-963-11	COMMANDER, STANDARD (RM-S271) (A27CDM/D209CD)	
1-466-926-11	COMMANDER, STANDARD (RM-S109) (A17CDM/D159CD/D220CD)	
1-501-374-11	ANTENNA, LOOP	
1-501-536-11	ANTENNA (AEP)	
1-696-860-11	CORD, CONNECTION 13P	
2-181-754-01	COVER, BATTERY (RM-S109)	
* 3-376-136-01	CUSHION (HALF) (HTC-D159)	
* 3-703-713-41	STICKER, SONY SYMBOL (10) (STR)	
3-707-584-01	COVER, BATTERY (RM-S271)	
3-756-330-11	MANUAL, INSTRUCTION (ENGLISH) (D159CD:UK)	
3-756-330-21	MANUAL, INSTRUCTION (ENGLISH) (US, CND)	
3-756-330-31	MANUAL, INSTRUCTION (ENGLISH, F) (CND)	
3-756-330-41	MANUAL, INSTRUCTION (ENGLISH, F, E, P) (D159CD:AEP)	
3-756-330-51	MANUAL, INSTRUCTION (D, NL, S, I) (D159CD:AEP)	
3-756-330-71	MANUAL, INSTRUCTION (ENGLISH, F, E, RC) (A17CDM)	
3-756-331-11	MANUAL, INSTRUCTION (ENGLISH) (D209CD:UK)	
3-756-331-41	MANUAL, INSTRUCTION (ENGLISH, F, E, P) (D209CD:AEP)	
3-756-331-51	MANUAL, INSTRUCTION (D, NL, S, I) (D209CD:AEP, G)	
3-756-331-61	MANUAL, INSTRUCTION (ENGLISH, D, POLISH, RUSSIAN) (D209CD:EE)	
3-756-331-71	MANUAL, INSTRUCTION (ENGLISH, F, E, RC) (A27CDM)	
4-937-945-01	PLATE (TRANSPORT), LOCK (HTC-D159/D259)	
* 4-947-532-01	SNOW BOX (L) (PS-LX52P)	
* 4-947-533-01	SNOW BOX (R) (PS-LX52P)	
* 4-956-900-01	CUSHION (UPPER) (D209CD)	
* 4-956-901-01	CUSHION (MIDDLE) (D209CD)	

Parts No.	Description	Remarks
* 4-956-902-01	CUSHION (LOWER) (D209CD)	
* 4-956-906-01	INDIVIDUAL, CARTON (D209CD:UK)	
* 4-957-208-01	CUSHION (SS-D170)	
* 4-957-529-01	INDIVIDUAL, CARTON (A17CDM)	
* 4-957-530-01	INDIVIDUAL, CARTON (D159:UK)	
* 4-957-532-01	INDIVIDUAL, CARTON (A27CDM:AUS)	
* 4-957-533-01	INDIVIDUAL, CARTON (D220CD)	
* 4-957-627-01	INDIVIDUAL, CARTON (D159:AEP)	
* 4-957-628-01	INDIVIDUAL, CARTON (CND)	
* 4-957-629-01	INDIVIDUAL, CARTON (D209CD:AEP, G)	
* 4-957-631-01	INDIVIDUAL, CARTON (A27CDM:E)	
* 4-957-639-01	CUSHION (CND)	
* 4-958-208-01	CUSHION (A17CDM, D159CD, D220CD)	
* 4-958-549-01	CUSHION (A27CDM)	
* 4-960-226-01	INDIVIDUAL, CARTON (D209CD:EE)	
A-4674-087-A	TURN TABLE MAT ASSY (PS-LX52P)	

F: FRENCH	NL: DUTCH	E: SPANISH	S: SWEDISH
P: PORTUGUESE	I: ITALIAN	D: GERMAN	RC: CHINESE

COMPACT HI-FI STEREO SYSTEM

SONY®

English
93G09069-1D
Printed in Japan
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Published by Audio Sector Quality Assurance Dept.

Sony Corporation
Audio Group

9-957-769-12

STR-A27/D209/D259

SERVICE MANUAL

Canadian Model
STR-D259
AEP Model
UK Model
STR-D209/D259
E Model
Australian Model
STR-A27

STR-A27, STR-D209 and STR-259 are the tuner and amplifier section in LBT-A27CDM, LBT-D209CD and LBT-D259CD respectively.

PHOTO: STR-D259

SPECIFICATIONS

Stereo FM-AM receiver

Tuner

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz (EXCEPT EE) 65.0 to 74.0 MHz (EE)
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	MW:530 to 1710 kHz (Canadian model) 522 to 1611 kHz (Italian model) 531 to 1602 kHz (9 kHz step) } (E model) 531 to 1710 kHz (10 kHz step) } 531 to 1602 kHz (Other models) LW:153 to 279 kHz SW:5.95 to 17.90 kHz (Mideasten model)
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

Amplifier

DIN power output	30 W + 30 W (6 ohms, at 1 kHz)
Continuous RMS power output	35 W + 35 W (6 ohms, at 1 kHz, 5% THD)
Music power output	60 W + 60 W (6 ohms)

Input	Jack type	Sensitivity	Impedance
VIDEO IN	Phono	300 mV	47 kohms
PHONO IN	Phono	3 mV	47 kohms

Output	Jack type	Impedance
SURROUND SPEAKER	Phono	Accepts speakers of 16 ohms
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more

Frequency response	VIDEO: 15 Hz to 50 kHz $^{+0}_{-3}$ dB

General

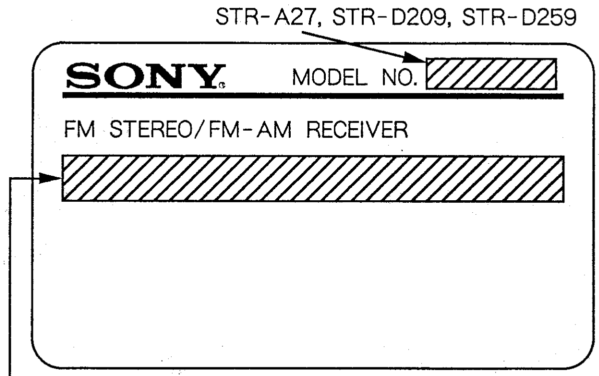
Power requirements	220 – 230 V AC, 50/60 Hz(AEP, IT, EE, G) 120 V AC, 60 Hz (CND) 240 V~AC, 50 Hz (UK) 110 – 120 V/220 – 240 V~AC, 50 Hz/60 Hz (E, AUS)
Power consumption	100 W (AEP, AE2, IT, EE, G, UK) 115 W (CND) 170 W (E, AUS, AU2)
Mass	Approx. 5.9 kg
Dimensions	Approx. 355 × 225 × 330 mm (w/h/d, including projections)

STEREO FM-AM RECEIVER

SONY®

— MODEL IDENTIFICATION —

(Specification Label)



- CND model : AC : 120V 60Hz 115W
- AEP, IT, EE, G model : AC : 220V-230V~50/60Hz 100W
- UK model : AC : 240V~50Hz 100W
- E, AUS model : AC : 110-120V/220-240V~50/60Hz 170W

Note : CND : Canadian model
G : German
IT : Italian model
EE : East European model
AUS, AU2 : Australian model

• CAUTION

Be sure to use insulation sheet (⚠4-959-364-01) when replacing power transformer because it is safely related part.

TABLE OF CONTENTS

Section Title Page

1. GENERAL 3

2. DISASSEMBLY

2-1. Front Panel 4
2-2. Panel Board 4
2-3. Amplifier Board 5
2-4. Main/Tuner Board 5

3. ADJUSTMENT 6

4. DIAGRAMS

4-1. Schematic Diagram —Tuner Section— 7
4-2. Printed Wiring Board —Main Section— 11
4-3. Schematic Diagram —Main Section— 15
4-4. Schematic Diagram —Display Section— 19
4-5. Printed Wiring Board —Display Section— 23
4-6. Circuit Boards Location 26
4-7. Semiconductor Lead Layouts 26

5. EXPRODED VIEWS

5-1. Front Section 27
5-2. Back Panel Section 29

6. ELECTRICAL PARTS LIST 30

SAFETY-RELATED COMPONENT WARNING!!

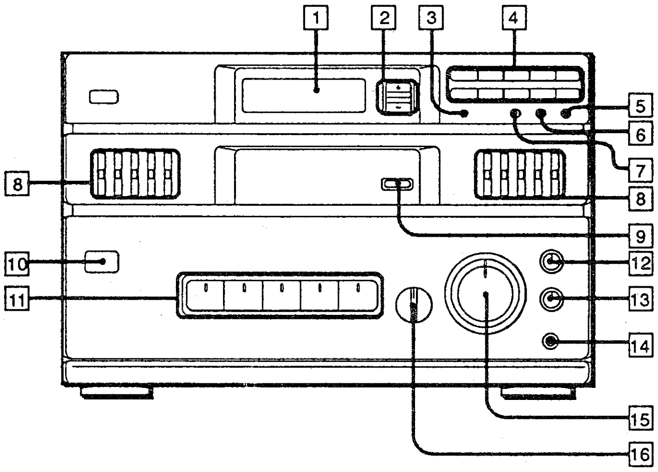
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.



Location of Controls

Refer to the pages indicated in parentheses for details.

Tuner

1. Display window
2. DUAL MODE TUNING +/− buttons (20, 22)
3. MEMORY button (22)
4. Numeric buttons (22)
5. SHIFT button (22)
6. BAND SELECT button (20)
7. ST/MUTE button (20,22)

Graphic Equalizer

8. 5 BAND GRAPHIC EQUALIZER controls (16)
9. EQUALIZER switch (16)

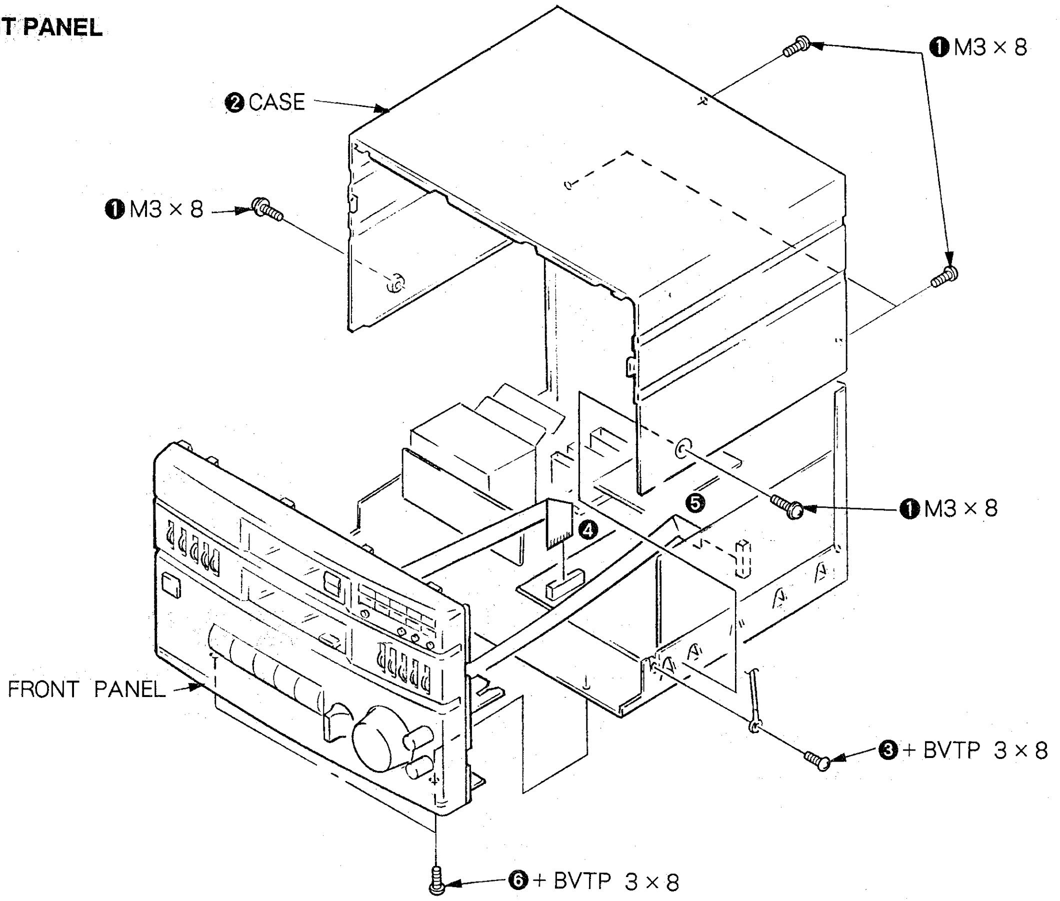
Amplifier

10. SYSTEM POWER button (14)
11. Function selectors and indicators (VIDEO/TAPE/CD/TUNER/PHONO)
12. BALANCE control (16)
13. SURROUND control (16)
14. HEADPHONES jack
15. VOLUME control and indicator (16)
16. DBFB (dynamic bass feedback) control (16)

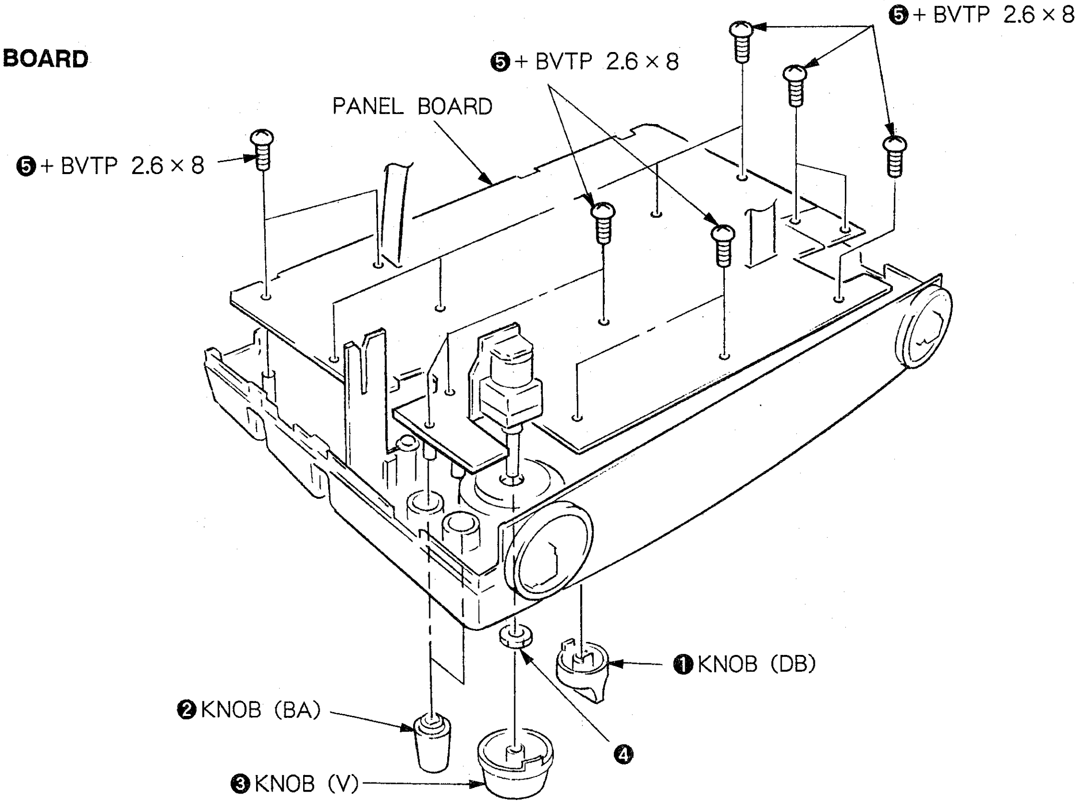
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

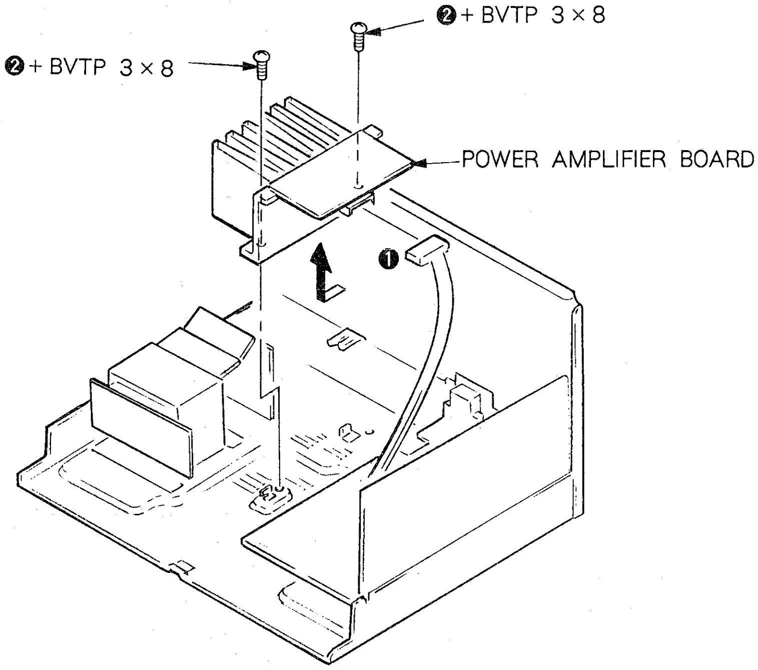
2-1. FRONT PANEL


❶M3 × 8
❷CASE
❶M3 × 8
❺
❹
❶M3 × 8
FRONT PANEL
❸+ BVTP 3 × 8
❻+ BVTP 3 × 8

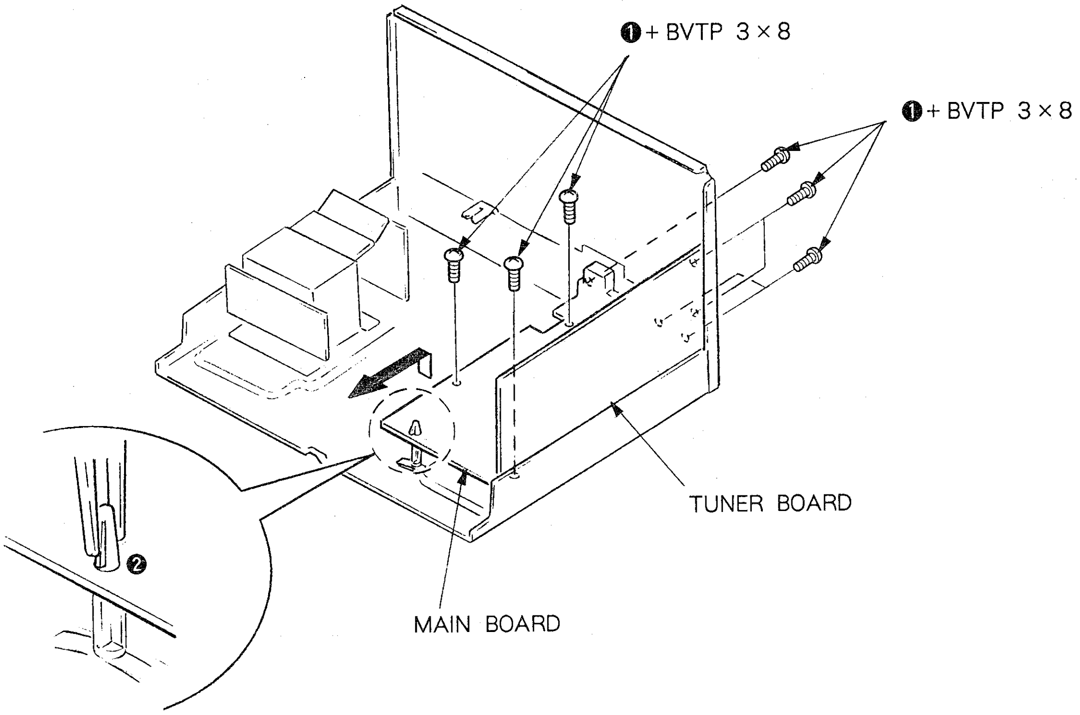
2-2. PANEL BOARD


❺+ BVTP 2.6 × 8
❺+ BVTP 2.6 × 8
PANEL BOARD
❺+ BVTP 2.6 × 8
❶KNOB (DB)
❷KNOB (BA)
❹
❸KNOB (V)

2-3. POWER AMPLIFIER BOARD


❷+ BVTP 3 × 8
❷+ BVTP 3 × 8
POWER AMPLIFIER BOARD
❶

2-4. MAIN /TUNER BOARD


❶+ BVTP 3 × 8
❶+ BVTP 3 × 8
TUNER BOARD
MAIN BOARD
❷

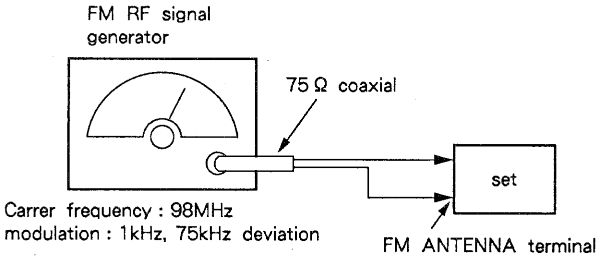
SECTION 3
ADJUSTMENTS

Note: As a front-end (FE301) is difficult to repair if faulty, replace it with new one.

TUNER SECTION

FM SECTION ADJUSTMENTS

Setting :


FM RF signal generator
75 Ω coaxial
set
Carrer frequency : 98MHz
modulation : 1kHz, 75kHz deviation
FM ANTENNA terminal

• TUNER OUT CHECK POINT

Speaker out receive 98MHz 60dB μ (1mV) and set the SPEAKER out to 10dBs by VOLUME.

Speaker load : 6 Ω both CH

FM NULL Adjustment

Procedure :

1. Supply a 60dB μ (1mV) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust T301 for 0V reading on the measurement point.

FM Tuned Indication Lighting Level Adjustment

Band : FM
ST/MUTE SW : OFF

Procedure :

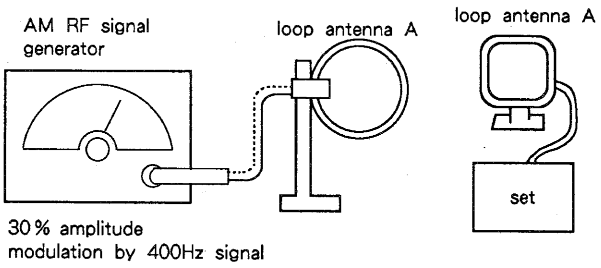
1. Supply a 24 ± 1 μ V (20 ± 4dBμ (EE)) (25 ± 4dBμ (EXCEPT EE)) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV302 so that the FL601 TUNED light up.

Adjustment Location: main board

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by trimmer capacitors.

AM SECTION ADJUSTMENT

Setting :


AM RF signal generator
loop antenna A
loop antenna A
set
30 % amplitude modulation by 400Hz signal

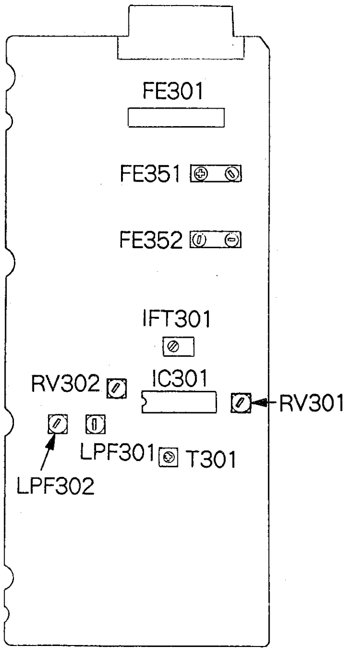
AM Tuned Indication Lighting Level Adjustment

Band : AM

Procedure :

1. Set loop antenna input level to 94dBμ/m, 1050 kHz and no signal tuned light should not on.
2. Ture the set to 1050kHz
3. Adjust RV301 so that the FL601 TUNED light up.

Adjustment Location: tuner board


FE301
FE351
FE352
IFT301
RV302
IC301
RV301
LPF301
T301
LPF302

SECTION 4
DIAGRAMS

Note on Schematic Diagram :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⊣▭⊢ : nonflammable resistor.
- ⊣∿⊢ : fusible resistor.

Note: The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- ▭ : adjustment for repair.
- ▬ : B + Line.
- ▬ ▬ ▬ : B − Line.

  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.

  ⇨ : FM

  ➡ : AM

- Model name and destination shown by ∗1 to ∗11.

∗1 : A27 : Australian
∗2 : A27 : E, AU2
∗3 : D209 : UK
∗4 : D209 : Italian
∗5 : D209 : East European
∗6 : D209 : German
∗7 : D209 : AEP, AE2
∗8 : D259 : Italian
∗9 : D259 : AEP, AE2
∗10 : D259 : UK
∗11 : D259 : Canadian
☆A : ∗4, 6, 8
☆B : ∗3, 5, 7, 9, 10
☆C : 209 : AEP, ∗3, 6, D259 : AEP, ∗10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

4-1. SCHEMATIC DIAGRAM — TUNER SECTION —

EXCEPT ☆B MODEL
[TUNER BOARD]
FE301 (FM FRONT-END)
(MITSUMI)
(ALPS)
ANTENNA
FM 75Ω
AM
FM 300Ω
IF AMP
IC301
FM, MPX, DET AM, IF, DET
AM ADJ.
FM ADJ.
AMP
FE352 (MW FRONT-END)
IC501
PLL
IC501 LC7218
Q521, 522 LPF FM
FM B+ SWITCH
FM SWITCH
TO DISPLAY BOARD CN601
TO MAIN BOARD CN302
CN501
CN1243
☆B MODEL
FE351 (SW FRONT-END)
FE352 (MW FRONT-END)
Q352 AM SWITCH
Q353 AM SWITCH
Q354, 355 MW SWITCH
MW SWITCH
Q305, 306 SWITCH
Q308, 309 AMP
MUTE
Q502 FM B+ SWITCH
Q501 FM SWITCH
Q531, 532 LPF AM

- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D351 (B)	E-6	IC1306	C-12
D1201	E-19	IC1601	J-19
D1202	E-15		
D1203	E-15	Q301 (E)	D-3
D1204	G-15	Q302 (E)	D-3
D1205	C-14	Q303 (E)	E-3
D1251	G-19	Q303 (B)	E-7
D1302	E-12	Q304 (E)	E-3
D1303	E-12	Q304 (B)	E-7
D1304	E-12	Q305 (E)	I-3
D1305	E-13	Q305 (B)	I-7
D1306	E-13	Q306 (E)	I-3
D1307	J-23	Q306 (B)	I-7
D1309	I-23	Q307 (E)	H-4
D1311	I-24	Q307 (B)	H-9
D1316	H-12	Q308 (E)	H-4
D1317	J-12	Q308 (B)	H-8
D1318	D-13	Q309 (E)	H-4
D1319	D-14	Q309 (B)	H-9
D1321	B-27	Q351 (B)	D-7
D1322	C-27	Q352 (B)	D-7
D1323	E-13	Q353 (B)	E-7
D1324	E-13	Q354 (B)	E-7
D1341	I-14	Q355 (B)	E-6
D1345	I-13	Q356 (B)	E-7
D1347	J-16	Q501 (E)	F-1
D1354	B-25	Q501 (B)	F-6
D1355	B-25	Q502 (E)	F-1
D1368	D-14	Q502 (B)	F-6
D1369	D-13	Q521 (E)	C-4
D1370	J-24	Q521 (B)	C-9
		Q522 (E)	B-4
IC301 (E)	G-2	Q522 (B)	B-9
IC301 (B)	G-7	Q531 (B)	D-8
IC501 (E)	E-4	Q532 (B)	C-9
IC501 (B)	E-9	Q1201	E-19
IC1001	D-11	Q1202	H-18
IC1002	G-11	Q1203	H-18
IC1003	I-11	Q1204	H-15
IC1201	F-20	Q1251	G-19
IC1202	F-15	Q1301	J-23
IC1302	J-12	Q1302	J-13
IC1303	I-14	Q1304	I-15
IC1304	H-13	Q1305	I-15
IC1305	H-14		

(B) : ★B

(E) : EXCEPT ★B

Note on Mounting Diagram :

- ○—— : Parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

- Model name and destination shown by ∗1 to ∗11.

∗1 : A27 : Australian
∗2 : A27 : E, AU2
∗3 : D209 : UK
∗4 : D209 : Italian
∗5 : D209 : East European
∗6 : D209 : German
∗7 : D209 : AEP, AE2
∗8 : D259 : Italian
∗9 : D259 : AEP, AE2 .
∗10 : D259 : UK
∗11 : D259 : Canadian
★A : ∗4, 6, 8
★B : ∗3, 5, 7, 9, 10
★C : 209 : AEP, ∗3, 6, D259 : AEP, ∗10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

4-2. PRINTED WIRING BOARD — MAIN SECTION —

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
A B C D E F G H I J
EXCEPT ★B MODEL
[TUNER BOARD]
A27, ∗11 MODEL
★B MODEL
[TUNER BOARD]
TM301 ANTENNA
FM75Ω
AM
[MAIN BOARD]
PHONO
VIDEO
∗2, D259 MODEL
SYSTEM CONTROL
★C MODEL
POWER SOURCE
SPEAKER
[SURROUND BOARD]
J1202 SURROUND SPEAKER
1-646-484
TO DISPLAY BOARD CN601
TO DISPLAY BOARD CN722
TO DISPLAY BOARD CN1101
TO VR BOARD CN701
[POWER AMPLIFIER BOARD]
1-646-478
A27 MODEL
[MIC BOARD]
MIC
1-646-479
A27 MODEL
[VOLTAGE SELECTOR BOARD]
VOLTAGE SELECTOR
1-646-474
[POWER SUPPLY BOARD]
EXCEPT A27 MODEL
AC IN
T1301 POWER TRANSFORMER
[POWER SUPPLY (B) BOARD]
∗4,5,6,7, D259 MODEL
(CHASSIS)
1-646-482

4-3. SCHEMATIC DIAGRAM — MAIN SECTION —

[MIC BOARD]
IC1005
MIC AMP
A27 MODEL
[MAIN BOARD]
TO DISPLAY BOARD CN1101
IC1001
PHONO RIAA EQ
IC1002
FUNCTION SWITCH
IC1003
MIC AMP
Q1005, 1004
MULTI CONTROL SWITCH
PHONO
VIDEO
SYSTEM CONTROL
[POWER AMPLIFIER BOARD]
IC1201
FINAL POWER AMP
Q1201, 1251
MUTE
Q1202, 1203
STAND BY SWITCH
C1202, 1252
EXCEPT ★A:220p
★A:470p
C1203, 1253
EXCEPT ★A:220p
★A:680p
TO VR BOARD CN701
[SURROUND BOARD]
SURROUND SPEAKER
SPEAKER
IC1202
FINAL POWER AMP CONTROL
DC DET B+ SWITCH
TO DIPLAY BOARD CN722
TO TUNER BOARD CN1243
IC1302
+5 REG
IC1303
+7 REG
IC1304
-7 REG
IC1306
PS B+ REG
IC1305
POWER CONTROL SWITCH
POWER SWITCH
C1309
A27, ✻11:2200/16
D209, ✻8, 9, 10:100/16
C1312, 1313
A27, ✻11:470/25
D209, ✻8, 9, 10:2200/25
EXCEPT A27 MODEL
A27 MODEL
AC IN
VOLTAGE SELECTOR
220–240V ⇔ 120V
[POWER SUPPLY BOARD]
including VOLTAGE SELECTOR BOARD
[POWER SUPPLY (B) BOARD]

Note on Schematic Diagram :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⊏⊐ : nonflammable resistor.
- ⊏⊐ : fusible resistor.

Note: The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- ▭ : adjustment for repair.
- ▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.

  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ➡ : AM

- Model name and destination shown by ✻1 to ✻11.

✻1 : A27 : Australian
✻2 : A27 : E, AU2
✻3 : D209 : UK
✻4 : D209 : Italian
✻5 : D209 : East European
✻6 : D209 : German
✻7 : D209 : AEP, AE2
✻8 : D259 : Italian
✻9 : D259 : AEP, AE2
✻10 : D259 : UK
✻11 : D259 : Canadian
★A : ✻4, 6, 8
★B : ✻3, 5, 7, 9, 10
★C : 209 : AEP, ✻3, 6, D259 : AEP, ✻10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

4-4. SCHEMATIC DIAGRAM — DISPLAY SECTION —

[PANEL BOARD]
FL1401
A27 MODEL
IC1401
FL DRIVE/CONTROL
A27, D259 MODEL
※1 MODEL
※2 MODEL
FL601
LINE H
IC601
DISPLAY CONTROL
IC1104
SN74HC00N LED SWITCH
(PHONO)(TAPE)
(CD)
(VIDEO) (TUNER)
Q1136, 1138, 1121 FUNCTION SWITCH
FUNCTION.A
FUNCTION.B
FUNCTION.C
Q1143 SWITCH
(STANDBY)
STANDBY SWITCH
[STAND BY SW BOARD (1/2)]
Q603 BUFFER
IC602
REMOTE RECIEVER
GP1U5DXB
Q602 SIRCS AMP
Q1141 MUTE
Q1146 MULTI LED SWITCH
(VOL.LED)
[STAND BY SW BOARD (2/2)]
※1, 4, 8, 11 MODEL
A27, ※11 MODEL
1N4148M x 6
※5 MODEL
A27, ※4, D259 MODEL
SHIFT
BAND
ST/MUTE
MEMORY
SYSTEM POWER
VIDEO
TAPE
CD
TUNER
PHONO
TO TUNER BOARD CN501
STEREO.IN
TUNED.IN
MUT
+6V
RESET
DIGITAL.GND
CE
SI
SO
CL
TO MAIN BOARD CN1206
+5V
RELAY.OUT
FUNCTION.B
-30V
FUNCTION.C
AU BUS
FUNCTION.A
FILAMENT
MULTI.CONT
FILAMENT
+7V
H.P.SW
-7V
H.P.SW
-7V
H.P.-R
H.P.-L
AU GND
GND
B+
B−
IC1003
VOL MOTOR CONTROL
VOL.A
VOL.B
[VR BOARD]
IC1101
AMP
SURROUND
DBFB
Q1101, 1151 V CONSTANT
IC1102
GEQ AMP
100Hz
330Hz
1KHz
3.3KHz
10KHz
S1102 EQUALIZER OFF → ON
BALANCE
VOLUME
MUTE
L-PANEL.OUT
GND
R-PANEL.OUT
TO POWER AMPLIFIER BOARD CN1201
L-PANEL.IN
GND
R-PANEL.IN
TO MAIN BOARD CN1201
CN701
CN722
J601
HEAD PHONES
CN755
CN723
★A MODEL
[H.P BOARD]
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

Note on Schematic Diagram :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- ▭ : adjustment for repair.
- ━━ : B + Line.
- ━ ━ ━ : B − Line.

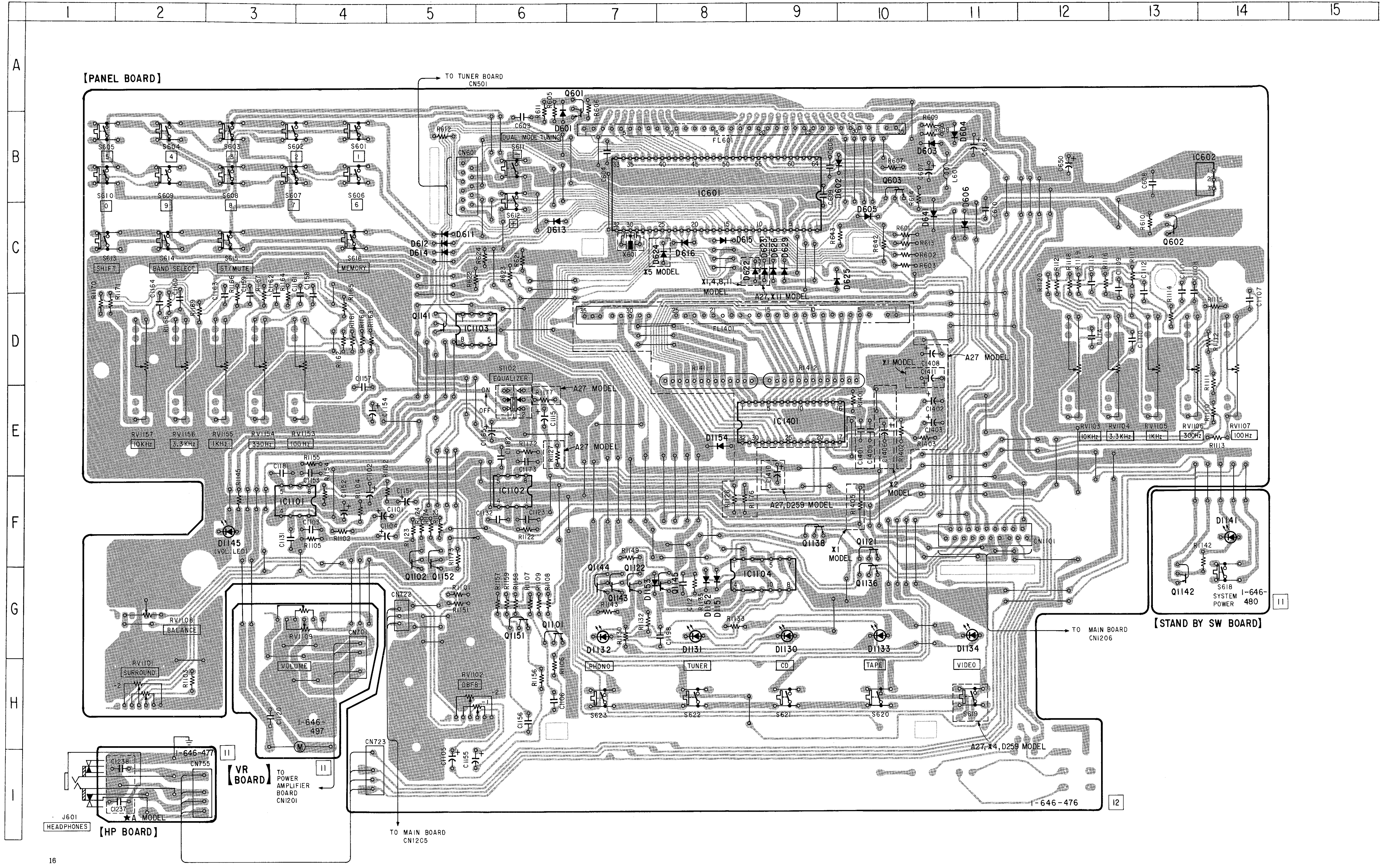
  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ➡ : AM

- Model name and destination shown by ∗1 to ∗11.

∗1 : A27 : Australian
∗2 : A27 : E, AU2
∗3 : D209 : UK
∗4 : D209 : Italian
∗5 : D209 : East European
∗6 : D209 : German
∗7 : D209 : AEP, AE2
∗8 : D259 : Italian
∗9 : D259 : AEP, AE2
∗10 : D259 : UK
∗11 : D259 : Canadian
★A : ∗4, 6, 8
★B : ∗3, 5, 7, 9, 10
★C : 209 : AEP, ∗3, 6, D259 : AEP, ∗10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

4-5. PRINTED WIRING BOARD — DISPLAY SECTION —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
[PANEL BOARD]
TO TUNER BOARD CN501
S605
S604
S603
S602
S601
S610
S609
S608
S607
S606
S613 SHIFT
S614 BAND SELECT
S615 ST/MUTE
S616 MEMORY
DUAL MODE TUNING
CN601
Q601
D601
D602
D603
D604
D605
D606
D611
D612
D613
D614
D615
D616
D623
D625
D641
Q602
Q603
FL601
IC601
IC602
IC1103
Q1141
FL1401
IC1401
S1102 EQUALIZER
ON
OFF
A27 MODEL
*1 MODEL
*1,4,8,11 MODEL
A27,*11 MODEL
*5 MODEL
*2 MODEL
A27,D259 MODEL
A27,*4,D259 MODEL
D1154
RV1157 10KHz
RV1156 3.3KHz
RV1155 1KHz
RV1154 330Hz
RV1153 100Hz
RV1103 10KHz
RV1104 3.3KHz
RV1105 1KHz
RV1106 300Hz
RV1107 100Hz
IC1101
IC1102
IC1104
D1145 (VOL LED)
Q1102
Q1152
Q1101
Q1151
Q1144
Q1122
Q1143
Q1145
Q1138
Q1121
Q1136
D1151
D1152
D1153
CN1101
CN722
CN701
RV1108 BALANCE
RV1101 SURROUND
RV1109 VOLUME
RV1102 DBFB
1-646-497
M
D1132 PHONO
D1131 TUNER
D1130 CD
D1133 TAPE
D1134 VIDEO
S623
S622
S621
S620
S619
TO MAIN BOARD CN1206
D1141
Q1142
S618 SYSTEM POWER
1-646-480
[STAND BY SW BOARD]
CN723
1-646-476
12
11
J601 HEADPHONES
C1238
C1237
CN755
1-646-477
★A MODEL
[HP BOARD]
[VR BOARD]
TO POWER AMPLIFIER BOARD CN1201
TO MAIN BOARD CN1205

- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	B-6	D1153	G-7
D602	B-9	D1154	E-8
D603	B-10		
D604	B-11	IC601	B-8
D605	C-10	IC602	B-13
D606	B-11	IC1101	F-3
D611	C-5	IC1102	F-6
D612	C-5	IC1103	D-5
D613	C-6	IC1104	G-8
D614	C-5	IC1401	E-9
D615	C-8		
D616	C-8	Q601	A-6
D622	C-8	Q602	C-13
D623	C-9	Q603	B-10
D624	C-8	Q1101	G-6
D625	C-9	Q1102	G-5
D626	C-9	Q1121	F-10
D629	C-9	Q1122	F-7
D641	C-10	Q1136	G-10
D1130	G-9	Q1138	F-9
D1131	G-8	Q1141	D-5
D1132	G-7	Q1142	G-13
D1133	G-10	Q1143	G-7
D1134	G-11	Q1144	F-7
D1141	F-14	Q1145	G-8
D1145	F-3	Q1151	G-6
D1151	G-8	Q1152	G-5
D1152	G-8		

Note on Mounting Diagram :

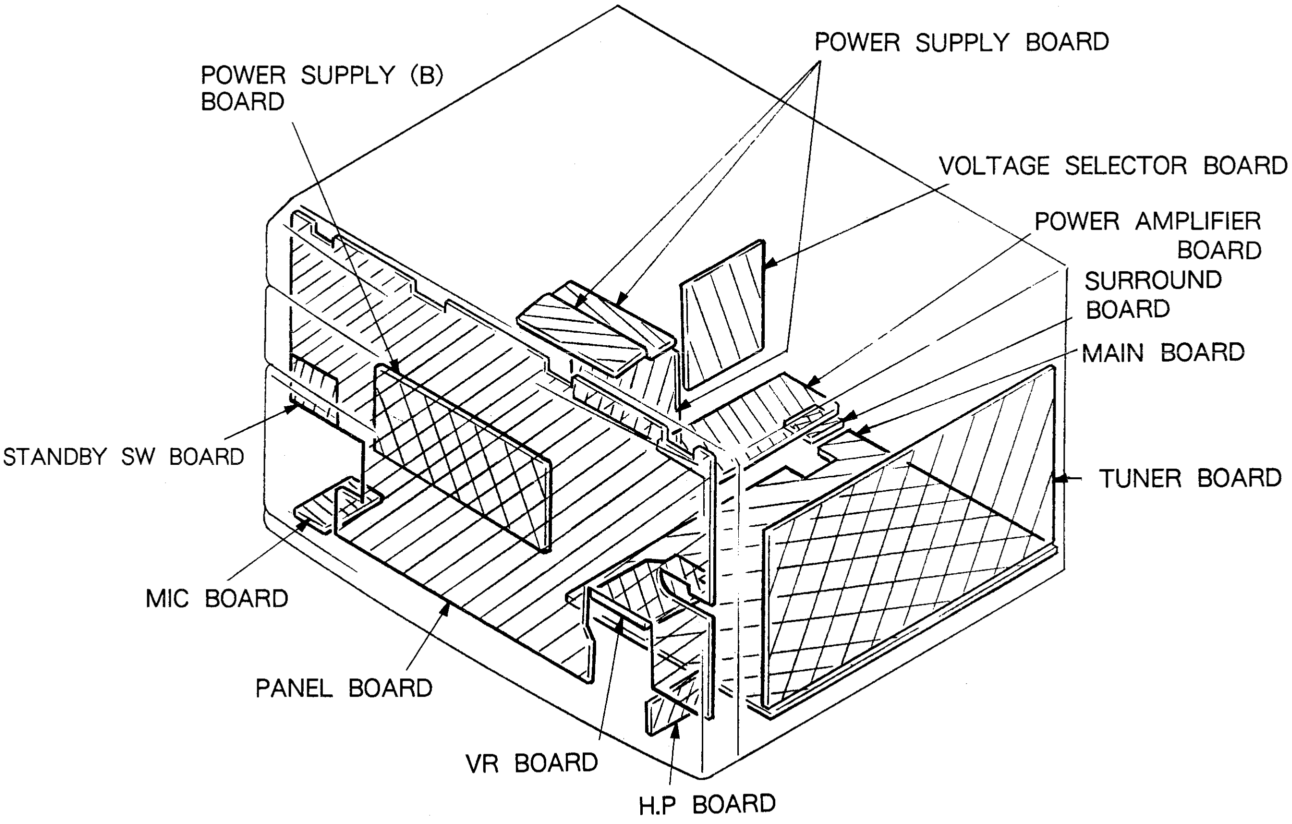
- o—— : Parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

- Model name and destination shown by * 1 to * 11.

* 1 : A27 : Australian
* 2 : A27 : E, AU2
* 3 : D209 : UK
* 4 : D209 : Italian
* 5 : D209 : East European
* 6 : D209 : German
* 7 : D209 : AEP, AE2
* 8 : D259 : Italian
* 9 : D259 : AEP, AE2
* 10 : D259 : UK
* 11 : D259 : Canadian
★A : * 4, 6, 8
★B : * 3, 5, 7, 9, 10
★C : 209 : AEP, * 3, 6, D259 : AEP, * 10

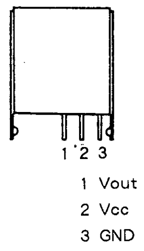
AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

4-6. CIRCUIT BOARDS LOCATION

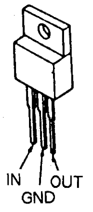

POWER SUPPLY BOARD
POWER SUPPLY (B) BOARD
VOLTAGE SELECTOR BOARD
POWER AMPLIFIER BOARD
SURROUND BOARD
MAIN BOARD
TUNER BOARD
STANDBY SW BOARD
MIC BOARD
PANEL BOARD
VR BOARD
H.P BOARD

4-7. SEMICONDUCTOR LEAD LAYOUTS

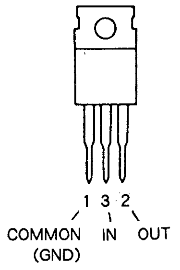
GP1U50XB


1 2 3
1 Vout
2 Vcc
3 GND

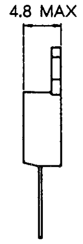
M5F7805
M5F7807L
M5F7812L



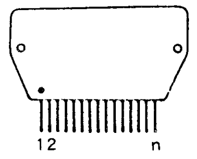
M5F79M07


1 3 2
COMMON (GND)
IN
OUT

L78MR06

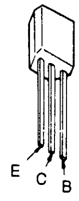


STK-4142MK2

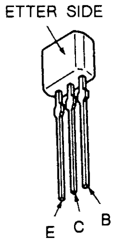


(MAKING SIDE VIEW)

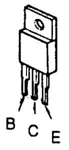
DTA114ES
DTC114ES
DTC124ES
2SC2603-EF
2SC2669-0Y
2SC3622A-LK



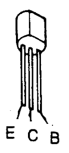
DTA124ES
2SA1175-HFE
2SC2785-HFE


ETTER SIDE
E C B

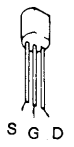
2SA473
2SD2012



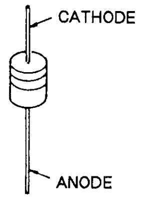
2SC1841-PAFAEA
2SC3112-B



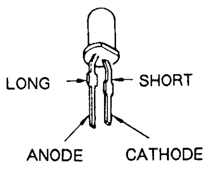
2SK246-GR3



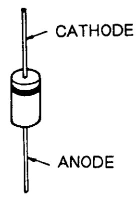
HZS7B3L
UZL-12M3
UZL-33L
UZL-5.8B
UZ-3.9BSB
11ES2


CATHODE
ANODE

SEL2210S-CD
SEL3210S-CD


LONG
SHORT
ANODE
CATHODE

1N4148M


CATHODE
ANODE

SECTION 5
EXPLODED VIEWS

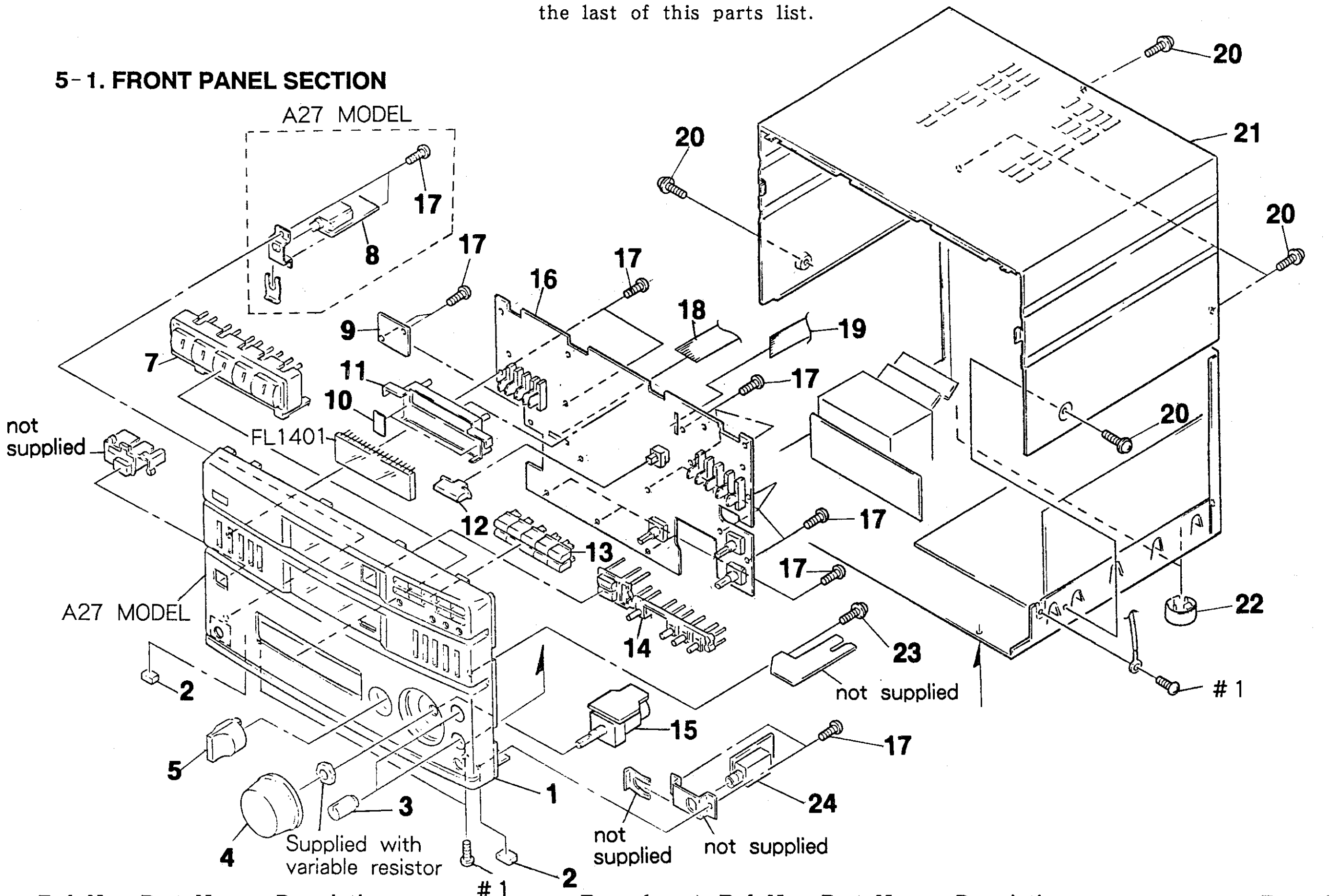
NOTE:

- −XX, −X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example :
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Model name and destination shown by *1 to *11.

*1 : A27 : Australian
*2 : A27 : E, AU2
*3 : D209 : UK
*4 : D209 : Italian
*5 : D209 : East European
*6 : D209 : German
*7 : D209 : AEP, AE2
*8 : D259 : Italian
*9 : D259 : AEP, AE2
*10 : D259 : UK
*11 : D259 : Canadian
★A : *4, 6, 8
★B : *3, 5, 7, 9, 10
★C : 209 : AEP, *3, 6, D259 : AEP, *10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

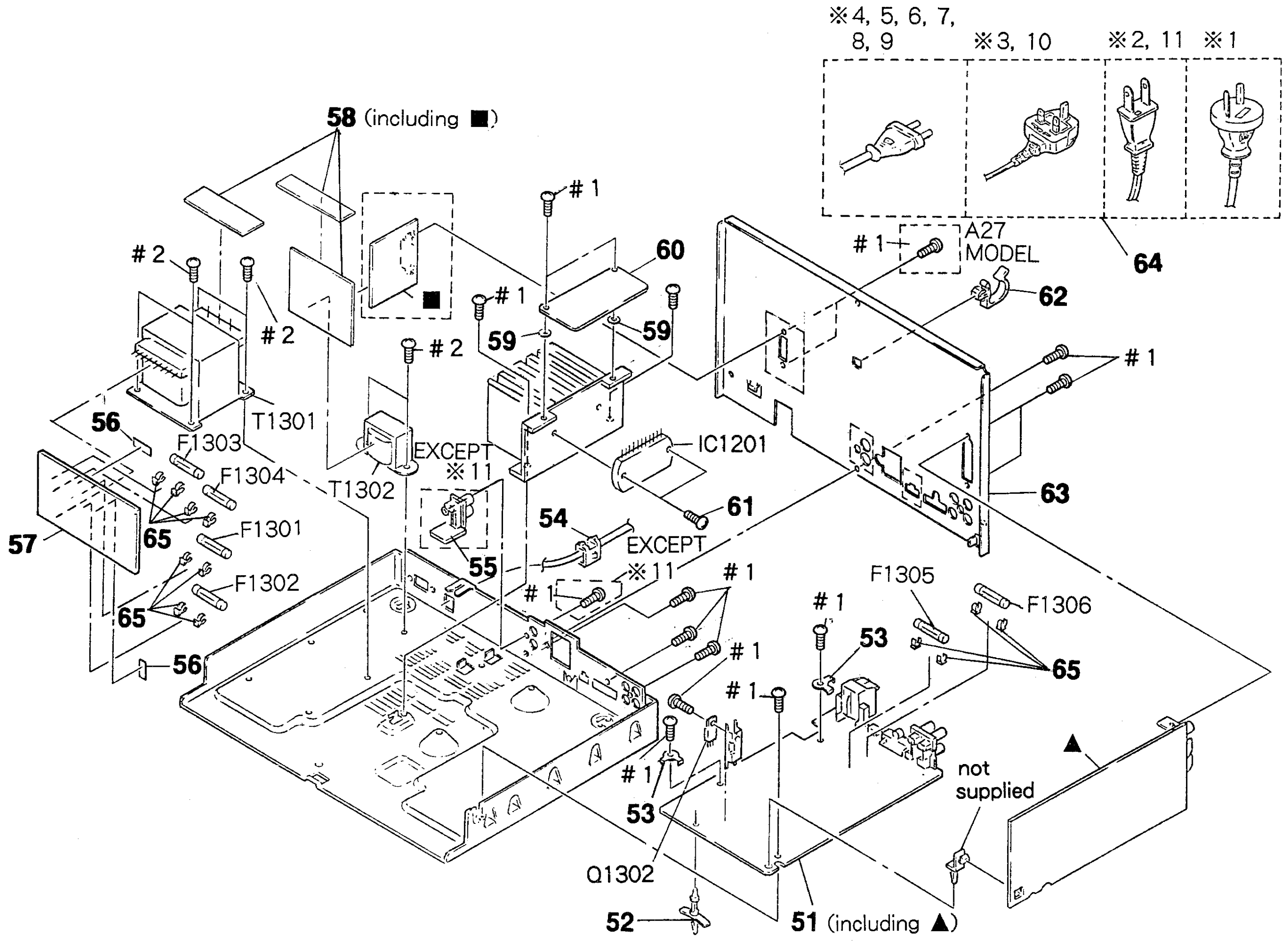
5-1. FRONT PANEL SECTION


A27 MODEL
17
8
17
9
7
11
10
FL1401
not supplied
A27 MODEL
16
17
18
19
12
13
14
17
20
21
20
20
17
17
22
23
not supplied
# 1
15
17
24
2
5
4
3
1
Supplied with variable resistor
# 1
2
not supplied
not supplied

Ref. No.	Part No.	Description	Remarks
1	X-4943-180-1	PANEL ASSY, FRONT (*1)	
1	X-4943-182-1	PANEL ASSY, FRONT (D209)	
1	X-4943-242-2	PANEL ASSY, FRONT (*2)	
1	X-4943-243-2	PANEL ASSY, FRONT (D259)	
2	4-948-236-01	CUSHION (107)	
3	4-955-744-01	KNOB (BA) (*1, D209)	
3	4-955-744-21	KNOB (BA) (*2, D259)	
4	4-955-635-01	KNOB (V) (*1, D209)	
4	4-955-635-21	KNOB (V) (*2, D259)	
5	4-955-636-01	KNOB (DB) (*1, D209)	
5	4-955-636-22	KNOB (DB) (*2, D259)	
7	X-4943-179-1	BUTTON (FU) ASSY	
* 8	1-646-479-11	MIC BOARD (A27)	
* 9	1-646-480-11	STAND-BY SW BOARD	
* 10	4-949-935-31	CUSHION (FL)	
* 11	4-942-301-01	HOLDER, FL TUBE	
12	4-955-755-01	BUTTON (EQ) (*1, D209)	
12	4-955-755-11	BUTTON (EQ) (*2, D259)	
13	4-955-741-01	BUTTON (PR) (*1, D209)	
13	4-955-741-21	BUTTON (PR) (*2, D259)	
14	4-955-745-01	BUTTON (ST)	
* 15	1-646-497-11	VR BOARD	
* 16	A-4356-640-A	PANEL BOARD, COMPLETE (*1)	
* 16	A-4356-736-A	PANEL BOARD, COMPLETE (*2)	
* 16	A-4356-623-A	PANEL BOARD, COMPLETE (*3)	
* 16	A-4356-930-A	PANEL BOARD, COMPLETE (*4)	
* 16	A-4360-822-A	PANEL BOARD, COMPLETE (*5)	
* 16	A-4356-924-A	PANEL BOARD, COMPLETE (*6)	
* 16	A-4356-608-A	PANEL BOARD, COMPLETE (*7)	
* 16	A-4360-541-A	PANEL BOARD, COMPLETE (*8)	
* 16	A-4360-531-A	PANEL BOARD, COMPLETE (*9)	
* 16	A-4360-520-A	PANEL BOARD, COMPLETE (*10)	
* 16	A-4360-509-A	PANEL BOARD, COMPLETE (*11)	
17	4-951-620-01	SCREW (2.6X8), +BVTP	
18	1-590-578-11	WIRE, FLAT TYPE (19 CORE)	
19	1-590-576-11	WIRE, FLAT TYPE (11 CORE) (A27, D259)	
19	1-590-576-21	WIRE, FLAT TYPE (11 CORE) (D209)	
20	3-704-366-01	SCREW (CASE) (M3X8)	
* 21	4-955-759-11	CASE (*1, D209)	
* 21	4-955-759-51	CASE (*2, D259)	
22	4-933-601-01	FOOT (*2, D259)	
22	X-4941-228-1	FOOT ASSY (*1, D209)	
23	4-957-577-01	SCREW PTP WH (2.6X8) (DIA. 10) (*1, D209)	
23	4-957-577-11	SCREW PTP WH (2.6X8) (DIA. 10) (*2, D259)	
* 24	1-646-477-11	H.P BOARD	
FL1401	1-519-648-21	INDUCTOR TUBE, FLUORENSCENT (A27)	

5-2. BACK PANEL SECTION

▲ : TUNER BOARD
■ : VOLTAGE SELECTOR BOARD


※4, 5, 6, 7, 8, 9
※3, 10
※2, 11
※1
58 (including ■)
# 1
# 2
# 2
60
# 1
A27 MODEL
64
62
■
# 1
59
59
# 2
# 1
T1301
56
F1303
F1304
T1302
EXCEPT ※11
IC1201
63
57
65
F1301
54
61
EXCEPT ※11
55
F1302
# 1
# 1
# 1
F1305
F1306
65
56
# 1
53
65
# 1
# 1
▲
53
not supplied
Q1302
52
51 (including ▲)

• CAUTION

Be sure to use insulation sheet (⚠4-959-364-01) when replacing power transformer because it is safely related part.

Ref. No.	Part No.	Description	Remarks
* 51	A-4356-650-A	MAIN BOARD, COMPLETE (*1)	
* 51	A-4356-742-A	MAIN BOARD, COMPLETE (*2)	
* 51	A-4356-630-A	MAIN BOARD, COMPLETE (*3)	
* 51	A-4356-933-A	MAIN BOARD, COMPLETE (*4)	
* 51	A-4360-821-A	MAIN BOARD, COMPLETE (*5)	
* 51	A-4356-926-A	MAIN BOARD, COMPLETE (*6)	
* 51	A-4356-618-A	MAIN BOARD, COMPLETE (D209:AEP)	
* 51	A-4356-928-A	MAIN BOARD, COMPLETE (D209:AE2)	
* 51	A-4360-543-A	MAIN BOARD, COMPLETE (*8)	
* 51	A-4360-534-A	MAIN BOARD, COMPLETE (D259:AEP)	
* 51	A-4360-538-A	MAIN BOARD, COMPLETE (D259:AE2)	
* 51	A-4360-523-A	MAIN BOARD, COMPLETE (*10)	
* 51	A-4360-511-A	MAIN BOARD, COMPLETE (*11)	
* 52	4-954-051-51	HOLDER, PC BOARD	
* 53	4-942-204-01	PLATE, GROUND	
* 54	3-703-244-00	BUSHING (2104), CORD (EXCEOT A27:E)	
* 54	3-703-571-11	BUSHING (S)(4516), CORD (A27:E)	
* 55	1-646-484-11	SURROUND BOARD (EXCEPT *11)	
* 56	3-701-946-26	LABEL (4A125V), FUSE (*11)	
* 57	1-646-478-11	POWER SUPPLY (B) BOARD	
* 58	1-646-474-11	POWER SUPPLY BOARD	
59	3-330-034-01	WASHER (*2, D259)	
59	3-564-542-00	WASHER, FIBER (D209)	
* 60	A-4356-649-A	POWER AMPLIFIER BOARD, COMPLETE (*1)	
* 60	A-4356-749-A	POWER AMPLIFIER BOARD, COMPLETE (*2)	
* 60	A-4356-628-A	POWER AMPLIFIER BOARD, COMPLETE (*3)	
* 60	A-4356-935-A	POWER AMPLIFIER BOARD, COMPLETE (*4, 6)	
* 60	A-4356-616-A	POWER AMPLIFIER BOARD, COMPLETE (*5, 7)	
* 60	A-4360-546-A	POWER AMPLIFIER BOARD, COMPLETE (*8)	
* 60	A-4360-537-A	POWER AMPLIFIER BOARD, COMPLETE (*9)	
* 60	A-4360-527-A	POWER AMPLIFIER BOARD, COMPLETE (*10)	
* 60	A-4360-516-A	POWER AMPLIFIER BOARD, COMPLETE (*11)	
61	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
* 62	4-949-235-01	HOOK (*2, 4, 5, 6, 7, 9, 11)	
* 63	4-955-781-11	PANEL, BACK (*1)	
* 63	4-955-824-91	PANEL, BACK (A27:E)	
* 63	4-955-824-61	PANEL, BACK (A27:AU2)	
* 63	4-955-778-21	PANEL, BACK (*3)	
* 63	4-955-778-31	PANEL, BACK (*4)	
* 63	4-955-778-41	PANEL, BACK (*5)	
* 63	4-955-778-91	PANEL, BACK (*6)	
* 63	4-955-778-11	PANEL, BACK (D209:AEP)	
* 63	4-955-778-81	PANEL, BACK (D209:AE2)	
* 63	4-955-824-31	PANEL, BACK (*8)	
* 63	4-955-824-11	PANEL, BACK (D259:AEP)	
* 63	4-955-824-81	PANEL, BACK (D259:AE2)	
* 63	4-955-824-21	PANEL, BACK (*10)	
* 63	4-955-824-51	PANEL, BACK (*11)	
⚠64	1-696-848-21	CORD, POWER (*1)	
⚠64	1-690-608-11	CORD, POWER (A27:AU2)	
⚠64	1-575-653-11	CORD, POWER (A27:E)	
⚠64	1-696-570-21	CORD, POWER (*3, 10)	
⚠64	1-575-651-11	CORD, POWER (*4,, 5, 6, 7, 8, 9)	
⚠64	1-690-609-21	CORD, POWER (*11)	
65	1-533-217-31	HOLDER, FUSE (*1, D209)	
* 65	1-533-213-11	HOLDER, FUSE (*2, D259)	
⚠F1301	1-532-350-00	FUSE 4A (A27, D209, *9, 10)	
⚠F1301	1-576-108-11	FUSE 4A (*8, 11)	
⚠F1302	1-532-350-00	FUSE 4A (A27, D209, *9, 10)	
⚠F1302	1-576-108-11	FUSE 4A (*8, 11)	
⚠F1303	1-532-203-00	FUSE 2A (D209, *9, 10)	
⚠F1303	1-532-286-00	FUSE 2.5A (A27, D209, *9, 10)	
⚠F1303	1-576-104-11	FUSE 2A (*8)	
⚠F1304	1-532-203-00	FUSE 2A (D209, *9, 10)	
⚠F1304	1-532-286-00	FUSE 2.5A (A27, D209, *9, 10)	
⚠F1304	1-576-104-11	FUSE 2A (*8)	
⚠F1305	1-532-286-00	FUSE 2.5A (A27, D209, *9, 10)	
⚠F1305	1-576-105-11	FUSE 2.5A (*8, 11)	
⚠F1306	1-532-286-00	FUSE 2.5A (A27, D209, *9, 10)	
⚠F1306	1-576-105-11	FUSE 2.5A (*8, 11)	
IC1201	8-749-900-24	IC STK-4162MK2 (A27, *11)	
IC1201	8-749-900-96	IC STK-4162MK2 (D209, *8, 9, 10)	
Q1302	8-729-209-15	TRANSISTOR 2SD2012	
⚠T1301	1-423-438-11	TRANSFORMER, POWER (*1)	
⚠T1301	1-423-438-21	TRANSFORMER, POWER (*2)	
⚠T1301	1-423-437-11	TRANSFORMER, POWER (D209)	
⚠T1301	1-423-437-21	TRANSFORMER, POWER (*8, 9, 10)	
⚠T1301	1-423-431-11	TRANSFORMER, POWER (*11)	
⚠T1302	1-449-723-31	TRANSFORMER, POWER (EXCEPT *11)	
⚠T1302	1-450-786-11	TRANSFORMER, POWER (*11)	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN **SURROUND**

SECTION 6

ELECTRICAL PARTS LIST

- Model name and destination shown by ＊1 to ＊11.

＊1 : A27 : Australian
＊2 : A27 : E, AU2
＊3 : D209 : UK
＊4 : D209 : Italian
＊5 : D209 : East European
＊6 : D209 : German
＊7 : D209 : AEP, AE2
＊8 : D259 : Italian
＊9 : D259 : AEP, AE2
＊10 : D259 : UK
＊11 : D259 : Canadian
★A : ＊4, 6, 8
★B : ＊3, 5, 7, 9, 10
★C : 209 : AEP, ＊3, 6, D259 : AEP, ＊10

AU2 : AUS (with in PHONO MODEL)
AE2 : AEP (with in PHONO MODEL)

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- −XX, −X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL : metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- CAPACITORS :
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description	Remarks
*	A-4356-650-A	MAIN BOARD, COMPLETE (*1)	
		************************	
*	A-4356-742-A	MAIN BOARD, COMPLETE (*2)	
		************************	
*	A-4356-630-A	MAIN BOARD, COMPLETE (*3)	
		************************	
*	A-4356-933-A	MAIN BOARD, COMPLETE (*4)	
		************************	
*	A-4360-821-A	MAIN BOARD, COMPLETE (*5)	
		************************	
*	A-4356-926-A	MAIN BOARD, COMPLETE (*6)	
		************************	
*	A-4356-618-A	MAIN BOARD, COMPLETE (D209:AEP)	
		******************************	
*	A-4356-928-A	MAIN BOARD, COMPLETE (D209:AE2)	
		******************************	
*	A-4360-543-A	MAIN BOARD, COMPLETE (*8)	
		************************	
*	A-4360-534-A	MAIN BOARD, COMPLETE (D259:AEP)	
		******************************	
*	A-4360-538-A	MAIN BOARD, COMPLETE (D259:AE2)	
		******************************	
*	A-4360-523-A	MAIN BOARD, COMPLETE (*10)	
		*************************	
*	A-4360-511-A	MAIN BOARD, COMPLETE (*11)	
		*************************	
*	1-646-484-11	SURROUND BOARD (EXCEPT *11)	
		***************************	
*	1-533-213-11	HOLDER, FUSE (*2, D259)	
*	1-533-213-31	HOLDER, FUSE (*2, D259)	
	1-533-217-31	HOLDER, FUSE (*1, D209)	
*	1-533-293-11	FUSE HOLDER (*2, D259)	
*	4-942-204-01	PLATE, GROUND	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S (*6)	

Ref. No.	Part No.	Description				Remarks
		< CAPACITOR >				
C301	1-161-379-00	CERAMIC	0.01uF	20%	25V	(★:A)
C302	1-124-477-11	ELECT	47uF	20%	25V	
C303	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C305	1-161-379-00	CERAMIC	0.01uF	20%	25V	(★:A)
C306	1-161-379-00	CERAMIC	0.01uF	20%	25V	(★:A)
C307	1-161-379-00	CERAMIC	0.01uF	20%	25V	(EXCEPT *1)
C308	1-161-379-00	CERAMIC	0.01uF	20%	25V	(EXCEPT *1)
C309	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C310	1-124-477-11	ELECT	47uF	20%	25V	
C311	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C312	1-101-006-00	CERAMIC	0.047uF		50V	
C313	1-123-382-00	ELECT	3.3uF	20%	100V	
C314	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C315	1-161-329-00	CERAMIC	0.0068uF	30%	16V	
C316	1-162-282-31	CERAMIC	100PF	10%	50V	
C317	1-162-292-31	CERAMIC	680PF	10%	50V	(*4, 6)
C317	1-162-289-31	CERAMIC	390PF	10%	50V	(*8)
C318	1-124-903-11	ELECT	1uF	20%	50V	
C320	1-124-903-11	ELECT	1uF	20%	50V	
C321	1-124-902-00	ELECT	0.47uF	20%	50V	
C322	1-124-463-00	ELECT	0.1uF	20%	50V	
C323	1-161-329-00	CERAMIC	0.0068uF	20%	16V	(EXCEPT *11)
C323	1-161-379-00	CERAMIC	0.01uF	20%	25V	(*11)
C324	1-161-329-00	CERAMIC	0.0068uF	20%	16V	(EXCEPT *11)
C324	1-161-379-00	CERAMIC	0.01uF	20%	25V	(*11)
C325	1-124-477-11	ELECT	47uF	20%	25V	
C326	1-124-907-11	ELECT	10uF	20%	50V	
C327	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C328	1-124-463-00	ELECT	0.1uF	20%	50V	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description				Remarks
C329	1-124-927-11	ELECT	4.7uF	20%	100V	
C330	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C331	1-126-176-11	ELECT	220uF	20%	10V	
C332	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C335	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C336	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C339	1-162-210-31	CERAMIC	30PF	5%	50V	(★:B)
C341	1-123-382-00	ELECT	3.3uF	20%	100V	
C342	1-123-382-00	ELECT	3.3uF	20%	100V	
C343	1-123-382-00	ELECT	3.3uF	20%	100V	
C344	1-123-382-00	ELECT	3.3uF	20%	100V	
C345	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C346	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C351	1-161-494-00	CERAMIC	0.022uF		25V	(★:B)
C352	1-102-120-00	CERAMIC	0.0018uF	10%	50V	(★:B)
C353	1-161-374-11	CERAMIC	0.0015uF	20%	50V	(★:B)
C354	1-161-494-00	CERAMIC	0.022uF		25V	(★:B)
C361	1-164-098-11	CERAMIC	0.047uF		12V	
C361	1-161-379-00	CERAMIC	0.01uF	20%	25V	(*4, 6)
C362	1-161-494-00	CERAMIC	0.022uF		25V	
C363	1-164-159-11	CERAMIC	0.1uF		50V	(★:B)
C364	1-161-494-00	CERAMIC	0.022uF		25V	(★:B)
C371	1-162-198-31	CERAMIC	8.2PF	10%	50V	(EXCEPT ★:B)
C371	1-162-196-31	CERAMIC	5.6PF	10%	50V	(★:B)
C373	1-162-288-31	CERAMIC	330PF	10%	50V	(*7, *8)
C501	1-102-961-00	CERAMIC	27PF	5%	50V	
C502	1-102-961-00	CERAMIC	27PF	5%	50V	
C503	1-124-477-11	ELECT	47uF	20%	25V	
C504	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C505	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C506	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C507	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C521	1-124-925-11	ELECT	2.2uF	20%	100V	
C522	1-124-463-00	ELECT	0.1uF	20%	50V	
C523	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C524	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C525	1-124-477-11	ELECT	47uF	20%	25V	(EXCEPT *5)
C525	1-126-101-11	ELECT	100uF	20%	16V	(*5)
C531	1-136-173-00	FILM	0.47uF	5%	50V	(★:B)
C532	1-161-494-00	CERAMIC	0.022uF		25V	(★:B)
C533	1-124-463-00	ELECT	0.1uF	20%	50V	(★:B)
C1001	1-124-925-11	ELECT	2.2uF	20%	100V	
C1002	1-162-282-31	CERAMIC	100PF	10%	50V	
C1003	1-162-282-31	CERAMIC	100PF	10%	50V	
C1004	1-124-477-11	ELECT	47uF	20%	25V	
C1005	1-161-377-00	CERAMIC	0.0047uF	20%	16V	
C1006	1-161-374-11	CERAMIC	0.0015uF	20%	50V	
C1007	1-124-464-11	ELECT	0.22uF	20%	50V	
C1008	1-124-477-11	ELECT	47uF	20%	25V	
C1010	1-124-477-11	ELECT	47uF	20%	25V	
C1012	1-124-925-11	ELECT	2.2uF	20%	100V	

Ref. No.	Part No.	Description				Remarks
C1013	1-162-290-31	CERAMIC	470PF	10%	50V	
C1014	1-161-494-00	CERAMIC	0.022uF		25V	
C1025	1-162-286-31	CERAMIC	220PF	10%	50V	
C1026	1-162-286-31	CERAMIC	220PF	10%	50V	
C1051	1-124-925-11	ELECT	2.2uF	20%	100V	
C1052	1-162-282-31	CERAMIC	100PF	10%	50V	
C1053	1-162-282-31	CERAMIC	100PF	10%	50V	
C1054	1-124-477-11	ELECT	47uF	20%	25V	
C1055	1-161-377-00	CERAMIC	0.0047uF	20%	16V	
C1056	1-161-374-11	CERAMIC	0.0015uF	20%	50V	
C1057	1-124-464-11	ELECT	0.22uF	20%	50V	
C1058	1-124-477-11	ELECT	47uF	20%	25V	
C1060	1-124-477-11	ELECT	47uF	20%	25V	
C1062	1-124-925-11	ELECT	2.2uF	20%	100V	
C1063	1-162-290-31	CERAMIC	470PF	10%	50V	
C1064	1-161-494-00	CERAMIC	0.022uF		25V	
C1075	1-162-286-31	CERAMIC	220PF	10%	50V	
C1076	1-162-286-31	CERAMIC	220PF	10%	50V	
C1212	1-124-916-11	ELECT	22uF	20%	63V	
C1213	1-124-916-11	ELECT	22uF	20%	63V	
C1221	1-126-101-11	ELECT	100uF	20%	16V	
C1222	1-126-176-11	ELECT	220uF	20%	10V	
C1223	1-126-176-11	ELECT	220uF	20%	10V	
C1245	1-101-006-00	CERAMIC	0.047uF		50V	(★:A)
C1246	1-101-006-00	CERAMIC	0.047uF		50V	(★:A)
C1247	1-101-006-00	CERAMIC	0.047uF		50V	(★:A)
C1248	1-101-006-00	CERAMIC	0.047uF		50V	(★:A)
C1249	1-161-494-00	CERAMIC	0.022uF		25V	(★:A)
C1250	1-161-494-00	CERAMIC	0.022uF		25V	(★:A)
C1262	1-124-916-11	ELECT	22uF	20%	63V	
C1263	1-124-916-11	ELECT	22uF	20%	63V	
C1294	1-161-494-00	CERAMIC	0.022uF		25V	(★:A)
C1302	1-102-394-11	CERAMIC	0.01uF		250V	
C1304	1-126-224-11	ELECT	4700uF	20%	42V	
C1305	1-126-224-11	ELECT	4700uF	20%	42V	
C1306	1-124-477-11	ELECT	47uF	20%	25V	
C1307	1-124-893-11	ELECT	2200uF	20%	10V	
C1308	1-126-101-11	ELECT	100uF	20%	16V	
C1309	1-124-556-11	ELECT	2200uF	20%	16V	(A27, *11)
C1309	1-126-101-11	ELECT	100uF	20%	16V	(D209, *8, 9, 10)
C1312	1-124-564-11	ELECT	4700uF	20%	25V	(A27, *11)
C1312	1-124-563-11	ELECT	2200uF	20%	25V	(D209, *8, 9, 10)
C1313	1-124-564-11	ELECT	4700uF	20%	25V	(A27, *11)
C1313	1-124-563-11	ELECT	2200uF	20%	25V	(D209, *8, 9, 10)
C1319	1-124-463-00	ELECT	0.1uF	20%	50V	
C1320	1-124-907-11	ELECT	10uF	20%	50V	
C1321	1-161-379-00	CERAMIC	0.01uF	20%	25V	

MAIN | SURROUND

Ref. No.	Part No.	Description	Remarks
C1322	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C1324	1-124-907-11	ELECT 10uF 20% 50V	
C1326	1-124-907-11	ELECT 10uF 20% 50V	
C1328	1-124-907-11	ELECT 10uF 20% 50V	
C1330	1-126-101-11	ELECT 100uF 20% 16V	
C1331	1-102-394-11	CERAMIC 0.01uF 250V	
C1335	1-124-907-11	ELECT 10uF 20% 50V	(★:C)
C1336	1-126-101-11	ELECT 100uF 20% 16V	(★:C)
C1341	1-124-907-11	ELECT 10uF 20% 50V	
C1346	1-124-925-11	ELECT 2.2uF 20% 100V	
C1351	1-124-122-11	ELECT 100uF 20% 50V	
C1352	1-126-105-11	ELECT 1000uF 20% 35V	
C1353	1-136-165-00	FILM 0.1uF 5% 50V	
C1354	1-136-165-00	FILM 0.1uF 5% 50V	
C1360	1-161-494-00	CERAMIC 0.022uF 25V	(*2, D259)
C1361	1-124-122-11	ELECT 100uF 20% 50V	

< FILTER >

Ref. No.	Part No.	Description	Remarks
CF301	1-577-070-81	FILTER, CERAMIC	(EXCEPT ★:A)
CF301	1-567-389-11	FILTER, CERAMIC	(★:A)
CF303	1-577-070-81	FILTER, CERAMIC	(EXCEPT ★:A)
CF303	1-567-389-11	FILTER, CERAMIC	(★:A)
CF304	1-577-075-11	OSCILLATOR, CERAMIC	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN212	1-564-506-11	PLUG, CONNECTOR 3P	
CN302	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P	
* CN501	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN1001	1-580-912-21	JACK, PIN 4P (IN)	(*2, D259)
* CN1001	1-580-912-11	JACK, PIN 4P (IN)	(*1, D209)
* CN1006	1-568-955-11	PIN, CONNECTOR 6P	(A27)
CN1201	1-537-494-11	TERMINAL BOARD (SPEAKER)	(EXCEPT *4, 8)
CN1201	1-537-481-11	TERMINAL BOARD (SPEAKER)	(*4, 8)
* CN1203	1-564-508-11	PLUG, CONNECTOR 5P	
CN1205	1-506-468-11	PIN, CONNECTOR 3P	
CN1206	1-568-802-11	SOCKET, CONNECTOR 19P	
* CN1241	1-565-291-11	SOCKET, CONNECTOR 13P (SYSTEM CONTROL)	
CN1243	1-695-094-11	SOCKET, CONNECTOR 11P	
CN1244	1-506-469-11	PIN, CONNECTOR 4P	(A27, *9, 10, 11)
* CN1301	1-566-210-11	PIN, CONNECTOR 3P (POWER SOURCE)	(★:C)
CN1302	1-506-469-11	PIN, CONNECTOR 4P	

< DIODE >

Ref. No.	Part No.	Description	Remarks
D351	8-719-987-63	DIODE 1N4148M	(★:B)
D1202	8-719-987-63	DIODE 1N4148M	
D1203	8-719-987-63	DIODE 1N4148M	
D1204	8-719-987-63	DIODE 1N4148M	
D1205	8-719-933-48	DIODE HZS7B3L	
D1302	8-719-312-09	DIODE RBA-402	
D1303	8-719-200-82	DIODE 11ES2	
D1304	8-719-200-82	DIODE 11ES2	
D1305	8-719-200-82	DIODE 11ES2	
D1306	8-719-200-82	DIODE 11ES2	
D1316	8-719-200-82	DIODE 11ES2	
D1317	8-719-200-82	DIODE 11ES2	
D1318	8-719-200-82	DIODE 11ES2	
D1319	8-719-200-82	DIODE 11ES2	
D1321	8-719-987-63	DIODE 1N4148M	
D1323	8-719-987-63	DIODE 1N4148M	
D1324	8-719-987-63	DIODE 1N4148M	
D1341	8-719-001-76	DIODE UZL-12M3	
D1347	8-719-987-63	DIODE 1N4148M	
D1368	8-719-200-82	DIODE 11ES2	
D1369	8-719-200-82	DIODE 11ES2	

< FRONTEND >

Ref. No.	Part No.	Description	Remarks
FE301	1-465-006-11	FRONT END (FM) (2 GANG)	(*2, 3)
FE301	1-693-090-21	FRONT END (FM) (2 GANG)	(*1, 7, 9, 10, 11)
FE301	1-463-857-21	FRONT END	(★:A)
FE301	1-465-396-11	FRONT END (FM 3GANG)	(*5)
FE351	1-236-463-11	ENCAPSULATED COMPONENT	(★:B)
FE352	1-239-260-11	ENCAPSULATED COMPONENT	(EXCEPT ★:B)
FE352	1-239-261-12	ENCAPSULATED COMPONENT	(★:B)

< IC >

Ref. No.	Part No.	Description	Remarks
IC301	8-759-821-45	IC LA1851N	
IC501	8-759-820-91	IC LC7218	
IC1001	8-759-634-51	IC M5218AP	
IC1002	8-759-000-48	IC MC14052BCP	
IC1003	8-759-634-51	IC M5218AP	
IC1202	8-759-111-68	IC uPC1237HA	
IC1302	8-759-231-53	IC M5F7805	
IC1303	8-759-071-48	IC M5F7807L	
IC1304	8-759-604-95	IC M5F79M07	
IC1305	8-759-820-13	IC L78MR06	
IC1306	8-759-231-58	IC M5F7812L	(★:C)

< JACK >

Ref. No.	Part No.	Description	Remarks
* J1202	1-569-130-11	JACK, PIN 2P (SURROUND SPEAKER)	(EXCEPT *11)

< IFT >

Ref. No.	Part No.	Description	Remarks
IFT301	1-404-713-11	TRANSFORMER, IF	

< COIL >

Ref. No.	Part No.	Description	Remarks
L301	1-410-686-11	INDUCTOR 1mH	(A27, *11)
L301	1-407-500-00	INDUCTOR 4.7mH	(D209, *8, 9, 10)
L351	1-410-525-11	INDUCTOR 220uH	(★:B)
L1301	1-408-117-00	INDUCTOR 10uH	(*6)
L1302	1-408-117-00	INDUCTOR 10uH	(*6)

< FILTER >

Ref. No.	Part No.	Description	Remarks
LPF301	1-235-164-00	FILTER, LOW PASS	
LPF302	1-235-164-00	FILTER, LOW PASS	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q301	8-729-230-99	TRANSISTOR 2SC2669-OY	(★:A)
Q302	8-729-230-99	TRANSISTOR 2SC2669-OY	(★:A)
Q303	8-729-230-99	TRANSISTOR 2SC2669-OY	(EXCEPT *1)
Q304	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-900-61	TRANSISTOR DTA114ES	
Q307	8-729-900-80	TRANSISTOR DTC114ES	
Q308	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2,D259)
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)
Q309	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2,D259)
Q309	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)
Q351	8-729-900-80	TRANSISTOR DTC114ES	(★:B)
Q352	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*3,5,7)
Q352	8-729-620-05	TRANSISTOR 2SC2603-EF	(*9,10)
Q353	8-729-119-76	TRANSISTOR 2SA1175-HFE	(★:B)
Q354	8-729-900-80	TRANSISTOR DTC114ES	(★:B)
Q355	8-729-900-80	TRANSISTOR DTC114ES	(★:B)
Q356	8-729-900-80	TRANSISTOR DTC114ES	(★:B)
Q501	8-729-900-80	TRANSISTOR DTC114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q521	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q522	8-729-201-84	TRANSISTOR 2SC3112-B	(A27,*11)
Q522	8-729-141-26	TRANSISTOR 2SC3622A-LK	(D209,*8,9,10)
Q531	8-729-202-67	TRANSISTOR 2SK246-GR3	(★:B)
Q532	8-729-141-26	TRANSISTOR 2SC3622A-LK	(★:B)
Q1004	8-729-900-36	TRANSISTOR DTC124ES	(*1)
Q1005	8-729-119-76	TRANSISTOR 2SA1175-HFE	(*1)
Q1204	8-729-900-63	TRANSISTOR DTA124ES	
Q1302	8-729-209-15	TRANSISTOR 2SD2012	
Q1304	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2,D259)
Q1304	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)
Q1305	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2,D259)
Q1305	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R301	1-249-401-11	CARBON 47 5% 1/4W	F
R302	1-249-409-11	CARBON 220 5% 1/4W	F (*1)
R302	1-249-413-11	CARBON 470 5% 1/4W	F (*2,3,5)
R302	1-249-407-11	CARBON 150 5% 1/4W	F (*7,9,10,11)
R302	1-249-405-11	CARBON 100 5% 1/4W	F (★:A)
R303	1-249-411-11	CARBON 330 5% 1/4W	(★:A)
R304	1-249-432-11	CARBON 18K 5% 1/4W	(★:A)
R305	1-249-411-11	CARBON 330 5% 1/4W	(★:A)
R306	1-249-434-11	CARBON 27K 5% 1/4W	(★:A)
R307	1-249-414-11	CARBON 560 5% 1/4W	F (★:A)
R308	1-249-411-11	CARBON 330 5% 1/4W	
R309	1-249-432-11	CARBON 18K 5% 1/4W	(EXCEPT *1)
R310	1-249-411-11	CARBON 330 5% 1/4W	
R311	1-249-434-11	CARBON 27K 5% 1/4W	(EXCEPT *1)
R311	1-247-891-00	CARBON 330K 5% 1/4W	(*1)
R312	1-249-414-11	CARBON 560 5% 1/4W	F (*2,3,5,7,9,11)
R312	1-249-416-11	CARBON 820 5% 1/4W	F (★:A)
R313	1-249-405-11	CARBON 100 5% 1/4W	F
R314	1-249-437-11	CARBON 47K 5% 1/4W	(★:A)
R315	1-249-404-00	CARBON 82 5% 1/4W	
R315	1-249-435-11	CARBON 33K 5% 1/4W	(★:A)
R316	1-249-429-11	CARBON 10K 5% 1/4W	
R317	1-249-417-11	CARBON 1K 5% 1/4W	F
R318	1-249-435-11	CARBON 33K 5% 1/4W	
R319	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R320	1-249-432-11	CARBON 18K 5% 1/4W	
R321	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R322	1-249-429-11	CARBON 10K 5% 1/4W	
R323	1-249-418-11	CARBON 1.2K 5% 1/4W	F (EXCEPT ★:A)
R323	1-249-423-11	CARBON 3.3K 5% 1/4W	F (*4,6)
R323	1-249-417-11	CARBON 1K 5% 1/4W	F (*8)
R324	1-249-429-11	CARBON 10K 5% 1/4W	
R325	1-249-429-11	CARBON 10K 5% 1/4W	
R326	1-249-409-11	CARBON 220 5% 1/4W	F
R327	1-249-437-11	CARBON 47K 5% 1/4W	
R328	1-249-437-11	CARBON 47K 5% 1/4W	
R331	1-247-899-11	CARBON 680K 5% 1/4W	
R332	1-247-899-11	CARBON 680K 5% 1/4W	
R333	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R334	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R335	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R336	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R337	1-249-426-11	CARBON 5.6K 5% 1/4W	
R338	1-249-426-11	CARBON 5.6K 5% 1/4W	
R351	1-249-433-11	CARBON 22K 5% 1/4W	(★:B)
R352	1-249-437-11	CARBON 47K 5% 1/4W	(★:B)
R353	1-247-903-00	CARBON 1M 5% 1/4W	(★:B)
R354	1-249-441-11	CARBON 100K 5% 1/4W	(★:B)
R355	1-249-433-11	CARBON 22K 5% 1/4W	(★:B)
R356	1-249-421-11	CARBON 2.2K 5% 1/4W	F (★:B)
R361	1-249-437-11	CARBON 47K 5% 1/4W	
R362	1-249-437-11	CARBON 47K 5% 1/4W	
R363	1-249-425-11	CARBON 4.7K 5% 1/4W	F (★:B)
R364	1-249-425-11	CARBON 4.7K 5% 1/4W	F (★:B)
R365	1-249-429-11	CARBON 10K 5% 1/4W	(D209,*8,9,10)
R366	1-249-413-11	CARBON 470 5% 1/4W	F (★:B)
R367	1-249-434-11	CARBON 27K 5% 1/4W	(★:B)
R368	1-249-433-11	CARBON 22K 5% 1/4W	(★:B)
R370	1-249-423-11	CARBON 3.3K 5% 1/4W	F (★:A)

MAIN | SURROUND

Ref. No.	Part No.	Description	Remarks
R501	1-249-417-11	CARBON 1K 5% 1/4W F	
R502	1-249-417-11	CARBON 1K 5% 1/4W F	
R503	1-249-417-11	CARBON 1K 5% 1/4W F	
R504	1-249-417-11	CARBON 1K 5% 1/4W F	
R505	1-249-429-11	CARBON 10K 5% 1/4W	
R506	1-249-417-11	CARBON 1K 5% 1/4W F	
R510	1-249-401-11	CARBON 47 5% 1/4W F	
R511	1-249-429-11	CARBON 10K 5% 1/4W	
R512	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R513	1-249-417-11	CARBON 1K 5% 1/4W F	
R514	1-249-429-11	CARBON 10K 5% 1/4W	
R515	1-249-417-11	CARBON 1K 5% 1/4W F	
R521	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R522	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R523	1-249-414-11	CARBON 560 5% 1/4W F	
R524	1-249-417-11	CARBON 1K 5% 1/4W F	
R525	1-249-410-11	CARBON 270 5% 1/4W F	
R526	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R527	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R528	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R529	1-249-405-11	CARBON 100 5% 1/4W F	
R530	1-249-405-11	CARBON 100 5% 1/4W F	
R531	1-249-423-11	CARBON 3.3K 5% 1/4W F	(★:B)
R532	1-249-433-11	CARBON 22K 5% 1/4W	(★:B)
R533	1-249-414-11	CARBON 560 5% 1/4W F	(★:B)
R534	1-249-417-11	CARBON 1K 5% 1/4W F	(★:B)
R535	1-249-410-11	CARBON 270 5% 1/4W F	(★:B)
R536	1-249-421-11	CARBON 2.2K 5% 1/4W F	(★:B)
R537	1-249-425-11	CARBON 4.7K 5% 1/4W F	(★:B)
R538	1-249-405-11	CARBON 100 5% 1/4W F	(★:B)
R613	1-249-441-11	CARBON 100K 5% 1/4W	(*9, 10, 11)
R631	1-249-441-11	CARBON 100K 5% 1/4W	(A27, D209, *8)
R1001	1-249-417-11	CARBON 1K 5% 1/4W F	
R1002	1-249-441-11	CARBON 100K 5% 1/4W	
R1003	1-249-416-11	CARBON 820 5% 1/4W F	
R1004	1-247-897-11	CARBON 560K 5% 1/4W	
R1005	1-249-437-11	CARBON 47K 5% 1/4W	
R1006	1-249-409-11	CARBON 220 5% 1/4W F	
R1007	1-249-441-11	CARBON 100K 5% 1/4W	
R1008	1-249-409-11	CARBON 220 5% 1/4W F	
R1010	1-249-417-11	CARBON 1K 5% 1/4W F	
R1012	1-249-417-11	CARBON 1K 5% 1/4W F	
R1013	1-249-441-11	CARBON 100K 5% 1/4W	
R1014	1-249-437-11	CARBON 47K 5% 1/4W	
R1015	1-249-437-11	CARBON 47K 5% 1/4W	
R1021	1-249-437-11	CARBON 47K 5% 1/4W	
R1022	1-249-432-11	CARBON 18K 5% 1/4W	(A27)
R1023	1-249-437-11	CARBON 47K 5% 1/4W	
R1024	1-249-417-11	CARBON 1K 5% 1/4W F	
R1029	1-249-433-11	CARBON 22K 5% 1/4W	(*1)
R1030	1-249-433-11	CARBON 22K 5% 1/4W	(*1)
R1031	1-249-433-11	CARBON 22K 5% 1/4W	(*1)
R1035	1-249-415-11	CARBON 680 5% 1/4W F	
R1037	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1051	1-249-417-11	CARBON 1K 5% 1/4W F	
R1052	1-249-441-11	CARBON 100K 5% 1/4W	
R1053	1-249-416-11	CARBON 820 5% 1/4W F	
R1054	1-247-897-11	CARBON 560K 5% 1/4W	
R1055	1-249-437-11	CARBON 47K 5% 1/4W	
R1056	1-249-409-11	CARBON 220 5% 1/4W F	
R1057	1-249-441-11	CARBON 100K 5% 1/4W	
R1058	1-249-409-11	CARBON 220 5% 1/4W F	
R1060	1-249-417-11	CARBON 1K 5% 1/4W F	
R1062	1-249-417-11	CARBON 1K 5% 1/4W F	
R1063	1-249-441-11	CARBON 100K 5% 1/4W	
R1065	1-249-415-11	CARBON 680 5% 1/4W F	
R1071	1-249-437-11	CARBON 47K 5% 1/4W	
R1072	1-249-432-11	CARBON 18K 5% 1/4W	(A27)
R1073	1-249-437-11	CARBON 47K 5% 1/4W	
R1074	1-249-417-11	CARBON 1K 5% 1/4W F	
R1095	1-249-433-11	CARBON 22K 5% 1/4W	(A27, *11)
R1222	1-249-415-11	CARBON 680 5% 1/4W F	
R1223	1-249-415-11	CARBON 680 5% 1/4W F	
R1226	1-215-890-11	METAL OXIDE 470 5% 2W F	
R1233	1-249-433-11	CARBON 22K 5% 1/4W	
R1234	1-249-433-11	CARBON 22K 5% 1/4W	
R1235	1-249-437-11	CARBON 47K 5% 1/4W	
R1236	1-249-441-11	CARBON 100K 5% 1/4W	
R1237	1-249-429-11	CARBON 10K 5% 1/4W	
R1240	1-249-438-11	CARBON 56K 5% 1/4W	
R1241	1-249-385-11	CARBON 2.2 5% 1/6W F	(★:A)
R1242	1-249-385-11	CARBON 2.2 5% 1/6W F	(★:A)
R1243	1-249-385-11	CARBON 2.2 5% 1/6W F	(★:A)
R1244	1-249-385-11	CARBON 2.2 5% 1/6W F	(★:A)
R1272	1-249-415-11	CARBON 680 5% 1/4W F	
R1273	1-249-415-11	CARBON 680 5% 1/4W F	
R1290	1-249-437-11	CARBON 47K 5% 1/4W	
R1301	1-249-429-11	CARBON 10K 5% 1/4W	
R1302	1-249-429-11	CARBON 10K 5% 1/4W	
R1306	1-249-433-11	CARBON 22K 5% 1/4W	
R1309	1-249-433-11	CARBON 22K 5% 1/4W	
R1321	1-249-417-11	CARBON 1K 5% 1/4W F	
R1322	1-249-429-11	CARBON 10K 5% 1/4W	
R1345	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1346	1-249-425-11	CARBON 4.7K 5% 1/4W F	(★:C)
R1347	1-249-417-11	CARBON 1K 5% 1/4W F	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remarks
RV301	1-238-601-11	RES, ADJ, CARBON 22K	
RV302	1-238-601-11	RES, ADJ, CARBON 22K	

< RELAY >

Ref. No.	Part No.	Description	Remarks
RY1201	1-515-533-11	RELAY	
RY1201	1-515-920-11	RELAY (24V) (D209,*8)	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remarks
T301	1-404-807-11	TRANSFORMER, DISCRIMINATOR	
T302	1-235-126-00	ENCAPSULATED COMPONENT (★:A)	

< TERMINAL >

Ref. No.	Part No.	Description	Remarks
TM301	1-537-264-11	TERMINAL BOARD (ANTENNA) (A27,*3,10,11)	
* TM301	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL) (ANTENNA) (*4,5,6,7,8,9)	

< TEST PIN >

Ref. No.	Part No.	Description	Remarks
* TP1	1-560-060-00	PIN, CONNECTOR 2P	

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
XT501	1-577-126-21	VIBRATOR, CRYSTAL	
XT501	1-579-383-11	VIBRATOR, CRYSTAL	

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Ref. No.	Part No.	Description	Remarks
*	A-4356-640-A	PANEL BOARD, COMPLETE (*1) **************************	
*	A-4356-736-A	PANEL BOARD, COMPLETE (*2) **************************	
*	A-4356-623-A	PANEL BOARD, COMPLETE (*3) **************************	
*	A-4356-930-A	PANEL BOARD, COMPLETE (*4) **************************	
*	A-4360-822-A	PANEL BOARD, COMPLETE (*5) **************************	
*	A-4356-924-A	PANEL BOARD, COMPLETE (*6) **************************	
*	A-4356-608-A	PANEL BOARD, COMPLETE (*7) **************************	
*	A-4360-541-A	PANEL BOARD, COMPLETE (*8) **************************	
*	A-4360-531-A	PANEL BOARD, COMPLETE (*9) **************************	
*	A-4360-520-A	PANEL BOARD, COMPLETE (*10) ***************************	
*	A-4360-509-A	PANEL BOARD, COMPLETE (*11) ***************************	
*	1-646-477-11	H.P BOARD *********	
*	1-646-478-11	POWER SUPPLY (B) BOARD **********************	
*	1-646-479-11	MIC BOARD (A27) ***************	
*	1-646-480-11	STAND-BY SW BOARD *****************	
*	1-646-497-11	VR BOARD ********	
*	1-533-213-11	HOLDER, FUSE (*2,D259)	
*	1-533-213-31	HOLDER, FUSE (*2,D259)	
	1-533-217-31	HOLDER, FUSE (D209)	
*	1-533-293-11	FUSE HOLDER (*2,D259)	
*	4-942-301-01	HOLDER, FL TUBE	
*	4-949-935-31	CUSHION (FL) (*2,D259)	

< CAPACITOR >

Ref. No.	Part No.	Description				Remarks
C603	1-136-169-00	FILM	0.22uF	5%	50V	
C604	1-164-159-11	CERAMIC	0.1uF		50V	
C605	1-125-486-11	DOUBLE LAYERS 0.22F			5.5V	
C606	1-164-159-11	CERAMIC	0.1uF		50V	
C607	1-124-907-11	ELECT	10uF	20%	50V	
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C609	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C610	1-162-286-31	CERAMIC	220PF	10%	50V	
C650	1-124-907-11	ELECT	10uF	20%	50V	
C1101	1-124-257-00	ELECT	2.2uF	20%	50V	
C1102	1-124-589-11	ELECT	47uF	20%	16V	
C1103	1-162-282-31	CERAMIC	100PF	10%	50V	
C1104	1-124-257-00	ELECT	2.2uF	20%	50V	
C1105	1-124-464-11	ELECT	0.22uF	20%	50V	
C1106	1-136-161-00	FILM	0.047uF	5%	50V	
C1107	1-136-155-00	FILM	0.015uF	5%	50V	
C1108	1-136-155-00	FILM	0.015uF	5%	50V	
C1109	1-137-437-11	FILM	0.0056uF	5%	50V	
C1110	1-161-327-00	CERAMIC	0.0033uF	20%	16V	
C1111	1-136-155-00	FILM	0.015uF	5%	50V	
C1112	1-136-157-00	FILM	0.022uF	5%	50V	
C1113	1-136-153-00	FILM	0.01uF	5%	50V	
C1114	1-161-377-00	CERAMIC	0.0047uF	20%	16V	
C1115	1-124-257-00	ELECT	2.2uF	20%	50V	
C1120	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C1121	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C1123	1-162-286-31	CERAMIC	220PF	10%	50V	
C1131	1-162-215-31	CERAMIC	47PF	5%	50V	
C1132	1-162-215-31	CERAMIC	47PF	5%	50V	
C1151	1-124-257-00	ELECT	2.2uF	20%	50V	
C1152	1-124-589-11	ELECT	47uF	20%	16V	
C1153	1-162-282-31	CERAMIC	100PF	10%	50V	
C1154	1-124-257-00	ELECT	2.2uF	20%	50V	

PANEL | H. P | POWER SUPPLY (B) | MIC | STAND-BY | VR

Ref. No.	Part No.	Description	Remarks
C1155	1-124-464-11	ELECT 0.22uF 20% 50V	
C1156	1-136-161-00	FILM 0.047uF 5% 50V	
C1157	1-136-155-00	FILM 0.015uF 5% 50V	
C1158	1-136-155-00	FILM 0.015uF 5% 50V	
C1159	1-137-437-11	FILM 0.0056uF 5% 50V	
C1160	1-161-327-00	CERAMIC 0.0033uF 20% 16V	
C1161	1-136-155-00	FILM 0.015uF 5% 50V	
C1162	1-136-157-00	FILM 0.022uF 5% 50V	
C1163	1-136-153-00	FILM 0.01uF 5% 50V	
C1164	1-161-377-00	CERAMIC 0.0047uF 20% 16V	
C1165	1-124-257-00	ELECT 2.2uF 20% 50V	
C1173	1-162-286-31	CERAMIC 220PF 10% 50V	
C1181	1-162-215-31	CERAMIC 47PF 5% 50V	
C1182	1-162-215-31	CERAMIC 47PF 5% 50V	
C1198	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C1237	1-162-282-31	CERAMIC 100PF 10% 50V	(★:A)
C1238	1-162-282-31	CERAMIC 100PF 10% 50V	(★:A)
C1401	1-162-294-31	CERAMIC 0.001uF 10% 50V	(A27)
C1402	1-124-916-11	ELECT 22uF 20% 63V	(A27)
C1403	1-124-916-11	ELECT 22uF 20% 63V	(A27)
C1406	1-124-443-00	ELECT 100uF 20% 10V	(*2)
C1408	1-126-163-11	ELECT 4.7uF 20% 50V	(A27)
C1409	1-161-379-00	CERAMIC 0.01uF 20% 25V	(A27)
C1410	1-126-163-11	ELECT 4.7uF 20% 50V	(A27, D259)
C1411	1-124-443-00	ELECT 100uF 20% 10V	(*1)
C1601	1-124-925-11	ELECT 2.2uF 20% 100V	(A27)
C1602	1-124-463-00	ELECT 0.1uF 20% 50V	(A27)
C1603	1-124-925-11	ELECT 2.2uF 20% 100V	(A27)
C1604	1-162-294-31	CERAMIC 0.001uF 10% 50V	(A27)
C1605	1-162-215-31	CERAMIC 47PF 5% 50V	(A27)
C1606	1-162-282-31	CERAMIC 100PF 10% 50V	(A27)
C1607	1-162-215-31	CERAMIC 47PF 5% 50V	(A27)
C1608	1-124-589-11	ELECT 47uF 20% 16V	(A27)
C1609	1-124-589-11	ELECT 47uF 20% 16V	(A27)
C1610	1-162-282-31	CERAMIC 100PF 10% 50V	(A27)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN601	1-568-830-11	SOCKET, CONNECTOR 11P	
CN1101	1-568-802-11	SOCKET, CONNECTOR 19P	

< DIODE >

Ref. No.	Part No.	Description	Remarks
D601	8-719-987-63	DIODE 1N4148M	
D602	8-719-010-26	DIODE UZ-3.9BSB	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-987-63	DIODE 1N4148M	
D605	8-719-987-63	DIODE 1N4148M	
D606	8-719-933-48	DIODE HZS7B3L	
D611	8-719-987-63	DIODE 1N4148M	
D612	8-719-987-63	DIODE 1N4148M	
D613	8-719-987-63	DIODE 1N4148M	
D614	8-719-987-63	DIODE 1N4148M	
D615	8-719-987-63	DIODE 1N4148M	
D616	8-719-987-63	DIODE 1N4148M	
D622	8-719-987-63	DIODE 1N4148M	(*1, 4, 8, 11)
D623	8-719-987-63	DIODE 1N4148M	(A27, *11)
D624	8-719-987-63	DIODE 1N4148M	(*5)
D625	8-719-987-63	DIODE 1N4148M	
D626	8-719-987-63	DIODE 1N4148M	
D629	8-719-987-63	DIODE 1N4148M	
D641	8-719-200-82	DIODE 11ES2	
D1130	8-719-301-37	LED SEL2210S-CD	
D1131	8-719-301-37	LED SEL2210S-CD	
D1132	8-719-301-37	LED SEL2210S-CD	
D1133	8-719-301-37	LED SEL2210S-CD	
D1134	8-719-301-37	LED SEL2210S-CD	
D1141	8-719-301-37	LED SEL2210S-CD	
D1145	8-719-313-69	DIODE SEL3210S-CD	
D1151	8-719-987-63	DIODE 1N4148M	
D1152	8-719-987-63	DIODE 1N4148M	
D1153	8-719-987-63	DIODE 1N4148M	
D1154	8-719-987-63	DIODE 1N4148M	

< FILTER >

Ref. No.	Part No.	Description	Remarks
FL601	1-519-732-11	INDICATOR TUBE, FLUORESCENT	
FL1401	1-519-648-21	INDICATOR TUBE, FLUORESCENT	(A27)

< IC >

Ref. No.	Part No.	Description	Remarks
IC601	8-759-096-99	IC uPD75212ACW-A47	
IC602	8-749-922-36	IC GP1U50XB	
IC1101	8-759-634-51	IC M5218AP	
IC1102	8-759-634-51	IC M5218AP	
IC1103	8-759-820-62	IC LB1639	
IC1104	8-759-916-12	IC TC74HC00P	
IC1401	8-759-065-87	IC XR-1096	(A27)
IC1601	8-759-634-51	IC M5218AP	(A27)

< JACK >

Ref. No.	Part No.	Description	Remarks
J601	1-691-002-11	JACK, LARGE TYPE (HEADPHONES)	(*2)
J601	1-573-151-11	JACK, LARGE TYPE (HEADPHONES)	(*1)
* J1201	1-691-003-11	JACK, LARGE TYPE (MIC)	

< COIL >

Ref. No.	Part No.	Description	Remarks
L601	1-410-521-11	INDUCTOR 100uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q601	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2, D259)
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1, D209)
Q602	8-729-900-80	TRANSISTOR DTC114ES	
Q603	8-729-900-80	TRANSISTOR DTC114ES	
Q1101	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2, D259)

Ref. No.	Part No.	Description	Remarks
Q1101	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)
Q1102	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1121	8-729-900-36	TRANSISTOR DTC124ES	
Q1122	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1136	8-729-900-36	TRANSISTOR DTC124ES	
Q1138	8-729-900-36	TRANSISTOR DTC124ES	
Q1141	8-729-900-63	TRANSISTOR DTA124ES	
Q1142	8-729-900-63	TRANSISTOR DTA124ES	
Q1143	8-729-900-80	TRANSISTOR DTC114ES	
Q1144	8-729-900-80	TRANSISTOR DTC114ES	
Q1145	8-729-900-61	TRANSISTOR DTA114ES	
Q1151	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2,D259)
Q1151	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1,D209)
Q1152	8-729-141-26	TRANSISTOR 2SC3622A-LK	
		< RESISTOR >	
R601	1-249-429-11	CARBON 10K 5% 1/4W	
R602	1-249-429-11	CARBON 10K 5% 1/4W	
R603	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R604	1-249-437-11	CARBON 47K 5% 1/4W	(*4,8)
R605	1-249-433-11	CARBON 22K 5% 1/4W	
R606	1-249-433-11	CARBON 22K 5% 1/4W	
R607	1-249-439-11	CARBON 68K 5% 1/4W	
R608	1-249-417-11	CARBON 1K 5% 1/4W F	
R609	1-249-405-11	CARBON 100 5% 1/4W F	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-249-437-11	CARBON 47K 5% 1/4W	
R612	1-249-417-11	CARBON 1K 5% 1/4W F	
R613	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R614	1-249-393-11	CARBON 10 5% 1/4W F	
R621	1-249-433-11	CARBON 22K 5% 1/4W	
R622	1-249-433-11	CARBON 22K 5% 1/4W	
R623	1-249-433-11	CARBON 22K 5% 1/4W	
R624	1-249-433-11	CARBON 22K 5% 1/4W	
R625	1-249-417-11	CARBON 1K 5% 1/4W F	(*1,D259)
R642	1-249-409-11	CARBON 220 5% 1/4W F	
R643	1-249-417-11	CARBON 1K 5% 1/4W F	(*2,D209, 8,10,11)
R1065	1-249-409-11	CARBON 220 5% 1/4W F	(*2)
R1101	1-249-441-11	CARBON 100K 5% 1/4W	
R1102	1-249-417-11	CARBON 1K 5% 1/4W F	
R1103	1-249-431-11	CARBON 15K 5% 1/4W	
R1104	1-249-441-11	CARBON 100K 5% 1/4W	
R1105	1-249-433-11	CARBON 22K 5% 1/4W	
R1106	1-249-424-11	CARBON 3.9K 5% 1/4W F	
R1107	1-249-441-11	CARBON 100K 5% 1/4W	
R1108	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R1109	1-249-412-11	CARBON 390 5% 1/4W F	
R1110	1-249-431-11	CARBON 15K 5% 1/4W	
R1111	1-249-439-11	CARBON 68K 5% 1/4W	
R1112	1-249-433-11	CARBON 22K 5% 1/4W	
R1113	1-249-431-11	CARBON 15K 5% 1/4W	

Ref. No.	Part No.	Description	Remarks
R1114	1-249-429-11	CARBON 10K 5% 1/4W	
R1115	1-249-429-11	CARBON 10K 5% 1/4W	
R1116	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1117	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1118	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1119	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1120	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R1121	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R1122	1-247-887-00	CARBON 220K 5% 1/4W	
R1123	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1124	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1125	1-249-433-11	CARBON 22K 5% 1/4W	
R1126	1-249-423-11	CARBON 3.3K 5% 1/4W F	(A27)
R1127	1-249-436-11	CARBON 39K 5% 1/4W	(A27)
R1130	1-249-412-11	CARBON 390 5% 1/4W F	
R1132	1-249-412-11	CARBON 390 5% 1/4W F	
R1133	1-249-412-11	CARBON 390 5% 1/4W F	
R1135	1-249-433-11	CARBON 22K 5% 1/4W	
R1142	1-249-412-11	CARBON 390 5% 1/4W F	
R1143	1-249-433-11	CARBON 22K 5% 1/4W	
R1145	1-249-412-11	CARBON 390 5% 1/4W F	
R1149	1-249-429-11	CARBON 10K 5% 1/4W	
R1151	1-249-441-11	CARBON 100K 5% 1/4W	
R1152	1-249-417-11	CARBON 1K 5% 1/4W F	
R1154	1-249-441-11	CARBON 100K 5% 1/4W	
R1155	1-249-433-11	CARBON 22K 5% 1/4W	
R1156	1-249-424-11	CARBON 3.9K 5% 1/4W F	
R1157	1-249-441-11	CARBON 100K 5% 1/4W	
R1158	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R1159	1-249-412-11	CARBON 390 5% 1/4W F	
R1160	1-249-431-11	CARBON 15K 5% 1/4W	
R1161	1-249-439-11	CARBON 68K 5% 1/4W	
R1162	1-249-433-11	CARBON 22K 5% 1/4W	
R1163	1-249-431-11	CARBON 15K 5% 1/4W	
R1164	1-249-429-11	CARBON 10K 5% 1/4W	
R1165	1-249-429-11	CARBON 10K 5% 1/4W	
R1166	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1167	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1168	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1169	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1170	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R1171	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R1172	1-247-887-00	CARBON 220K 5% 1/4W	
R1173	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1174	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1176	1-249-423-11	CARBON 3.3K 5% 1/4W F	(A27)
R1177	1-249-436-11	CARBON 39K 5% 1/4W	(A27)
R1401	1-249-418-11	CARBON 1.2K 5% 1/4W F	(A27)
R1402	1-247-881-00	CARBON 120K 5% 1/4W	(A27)
R1403	1-247-881-00	CARBON 120K 5% 1/4W	(A27)
R1405	1-249-409-11	CARBON 220 5% 1/4W F	(*1)

Ref. No.	Part No.	Description	Remarks
R1411	1-239-054-11	COMPOSITION CIRCUIT BLOCK	(A27)
R1412	1-239-054-11	COMPOSITION CIRCUIT BLOCK	(A27)
R1601	1-249-429-11	CARBON 10K 5% 1/4W	(A27)
R1602	1-249-417-11	CARBON 1K 5% 1/4W F	(A27)
R1603	1-249-412-11	CARBON 390 5% 1/4W F	(A27)
R1604	1-249-434-11	CARBON 27K 5% 1/4W	(A27)
R1605	1-249-433-11	CARBON 22K 5% 1/4W	(A27)
R1606	1-249-437-11	CARBON 47K 5% 1/4W	(A27)

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remarks
RV1101	1-223-251-11	RES, VAR, CARBON 100K/100K (SURROUND)	
RV1102	1-223-251-11	RES, VAR, CARBON 100K/100K (DBFB)	
RV1103	1-223-289-11	RES, VAR, SLIDE 100K (100Hz)	
RV1104	1-223-289-11	RES, VAR, SLIDE 100K (330Hz)	
RV1105	1-223-289-11	RES, VAR, SLIDE 100K (1KHz)	
RV1106	1-223-289-11	RES, VAR, SLIDE 100K (3.3KHz)	
RV1107	1-223-289-11	RES, VAR, SLIDE 100K (10KHz)	
RV1108	1-223-253-11	RES, VAR, CARBON 100K/100K (BALANCE)	
RV1109	1-223-291-11	RES, VAR, CARBON 100K/100K (VOLUME)	
RV1153	1-223-289-11	RES, VAR, SLIDE 100K (100Hz)	
RV1154	1-223-289-11	RES, VAR, SLIDE 100K (330Hz)	
RV1155	1-223-289-11	RES, VAR, SLIDE 100K (1KHz)	
RV1156	1-223-289-11	RES, VAR, SLIDE 100K (3.3KHz)	
RV1157	1-223-289-11	RES, VAR, SLIDE 100K (10KHz)	

< SWITCH >

Ref. No.	Part No.	Description	Remarks
S601	1-554-303-21	SWITCH, TACTILE (1)	
S602	1-554-303-21	SWITCH, TACTILE (2)	
S603	1-554-303-21	SWITCH, TACTILE (3)	
S604	1-554-303-21	SWITCH, TACTILE (4)	
S605	1-554-303-21	SWITCH, TACTILE (5)	
S606	1-554-303-21	SWITCH, TACTILE (6)	
S607	1-554-303-21	SWITCH, TACTILE (7)	
S608	1-554-303-21	SWITCH, TACTILE (8)	
S609	1-554-303-21	SWITCH, TACTILE (9)	
S610	1-554-303-21	SWITCH, TACTILE (0)	
S611	1-554-303-21	SWITCH, TACTILE (+)	
S612	1-554-303-21	SWITCH, TACTILE (-)	
S613	1-554-303-21	SWITCH, TACTILE (SHIFT)	
S614	1-554-303-21	SWITCH, TACTILE (BAND SELECT)	
S615	1-554-303-21	SWITCH, TACTILE (ST/MUTE)	
S616	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S618	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	
S619	1-554-303-21	SWITCH, TACTILE (VIDEO)	(A27, *4, D259)
S620	1-554-303-21	SWITCH, TACTILE (TAPE)	
S621	1-554-303-21	SWITCH, TACTILE (CD)	
S622	1-554-303-21	SWITCH, TACTILE (TUNER)	
S623	1-554-303-21	SWITCH, TACTILE (PHONO)	
S1102	1-571-305-11	SWITCH, PUSH (EQULIZER) (1 KEY)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X601	1-567-775-11	VIBRATOR, CERAMIC	

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Ref. No.	Part No.	Description	Remarks
*	A-4356-649-A	POWER AMPLIFIER BOARD, COMPLETE (*1)	
		************************************	
*	A-4356-749-A	POWER AMPLIFIER BOARD, COMPLETE (*2)	
		************************************	
*	A-4356-628-A	POWER AMPLIFIER BOARD, COMPLETE (*3)	
		************************************	
*	A-4356-935-A	POWER AMPLIFIER BOARD, COMPLETE (*4, 6)	
		**************************************	
*	A-4356-616-A	POWER AMPLIFIER BOARD, COMPLETE (*5, 7)	
		**************************************	
*	A-4360-546-A	POWER AMPLIFIER BOARD, COMPLETE (*8)	
		************************************	
*	A-4360-537-A	POWER AMPLIFIER BOARD, COMPLETE (*9)	
		************************************	
*	A-4360-527-A	POWER AMPLIFIER BOARD, COMPLETE (*10)	
		*************************************	
*	A-4360-516-A	POWER AMPLIFIER BOARD, COMPLETE (*11)	
		*************************************	

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C1201	1-124-257-00	ELECT 2.2uF 20% 50V	
C1202	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT ★:A)
C1202	1-162-290-31	CERAMIC 470PF 10% 50V	(★:A)
C1203	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT ★:A)
C1203	1-162-292-31	CERAMIC 680PF 10% 50V	(★:A)
C1204	1-124-477-11	ELECT 47uF 20% 25V	
C1205	1-124-910-11	ELECT 47uF 20% 50V	
C1206	1-124-122-11	ELECT 100uF 20% 50V	
C1207	1-136-165-00	FILM 0.1uF 5% 50V	
C1208	1-124-916-11	ELECT 22uF 20% 63V	
C1209	1-164-159-11	CERAMIC 0.1uF 50V	
C1210	1-136-163-00	FILM 0.068uF 5% 50V	
C1211	1-136-163-00	FILM 0.068uF 5% 50V	
C1220	1-124-910-11	ELECT 47uF 20% 50V	
C1230	1-161-494-00	CERAMIC 0.022uF 25V	(★:A)
C1231	1-161-494-00	CERAMIC 0.022uF 25V	(★:A)
C1232	1-161-494-00	CERAMIC 0.022uF 25V	(★:A)
C1233	1-161-494-00	CERAMIC 0.022uF 25V	(★:A)
C1251	1-124-257-00	ELECT 2.2uF 20% 50V	
C1252	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT ★:A)
C1252	1-162-290-31	CERAMIC 470PF 10% 50V	(★:A)

Ref. No.	Part No.	Description	Remarks
C1253	1-162-286-31	CERAMIC 220PF 10% 50V	(EXCEPT ★:A)
C1253	1-162-292-31	CERAMIC 680PF 10% 50V	(★:A)
C1254	1-124-477-11	ELECT 47uF 20% 25V	
C1255	1-124-910-11	ELECT 47uF 20% 50V	
C1256	1-124-122-11	ELECT 100uF 20% 50V	
C1257	1-136-165-00	FILM 0.1uF 5% 50V	
C1260	1-136-163-00	FILM 0.068uF 5% 50V	
C1261	1-136-163-00	FILM 0.068uF 5% 50V	
C1280	1-161-494-00	CERAMIC 0.022uF 25V	(★:A)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN1201	1-564-518-11	PLUG, CONNECTOR 3P	
* CN1202	1-564-522-11	PLUG, CONNECTOR 7P	

< DIODE >

Ref. No.	Part No.	Description	Remarks
D1201	8-719-987-63	DIODE 1N4148M	
D1251	8-719-987-63	DIODE 1N4148M	

< IC >

Ref. No.	Part No.	Description	Remarks
IC1201	8-749-900-24	IC STK-4162MK2	(A27, *11)
IC1201	8-749-900-96	IC STK-4142MK2	(D209, *8, 9, 10)

< COIL >

Ref. No.	Part No.	Description	Remarks
L1221	1-420-872-00	COIL, AIR CORE	
L1251	1-420-872-00	COIL, AIR CORE	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q1201	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q1202	8-729-900-80	TRANSISTOR DTC114ES	
Q1203	8-729-620-05	TRANSISTOR 2SC2603-EF	(*2, D259)
Q1203	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1, D209)
Q1251	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R1201	1-249-417-11	CARBON 1K 5% 1/4W F	
R1202	1-249-438-11	CARBON 56K 5% 1/4W	
R1203	1-249-417-11	CARBON 1K 5% 1/4W F	
R1204	1-249-438-11	CARBON 56K 5% 1/4W	
R1205	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1206	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1207	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1208	1-249-425-11	CARBON 4.7K 5% 1/4W F	
⚠R1209	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R1210	1-217-151-00	RES, METAL PLATE 0.22	
R1211	1-249-417-11	CARBON 1K 5% 1/4W F	
R1212	1-249-431-11	CARBON 15K 5% 1/4W	
R1213	1-249-441-11	CARBON 100K 5% 1/4W	
R1214	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1215	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1216	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1217	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1218	1-249-397-11	CARBON 22 5% 1/4W F	
R1219	1-249-397-11	CARBON 22 5% 1/4W F	
R1220	1-249-397-11	CARBON 22 5% 1/4W F	
R1221	1-249-397-11	CARBON 22 5% 1/4W F	
R1227	1-249-429-11	CARBON 10K 5% 1/4W	
R1228	1-247-881-00	CARBON 120K 5% 1/4W	
R1229	1-249-439-11	CARBON 68K 5% 1/4W	
R1230	1-249-439-11	CARBON 68K 5% 1/4W	
R1231	1-249-417-11	CARBON 1K 5% 1/4W F	
R1232	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R1238	1-249-433-11	CARBON 22K 5% 1/4W	
R1239	1-249-426-11	CARBON 5.6K 5% 1/4W	
R1241	1-249-383-81	CARBON 1.5 5% 1/4W F	(*3, 5, 7)
R1251	1-249-417-11	CARBON 1K 5% 1/4W F	
R1252	1-249-438-11	CARBON 56K 5% 1/4W	
R1253	1-249-417-11	CARBON 1K 5% 1/4W F	
R1254	1-249-438-11	CARBON 56K 5% 1/4W	
R1255	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1256	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1257	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1258	1-249-425-11	CARBON 4.7K 5% 1/4W F	
⚠R1259	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R1260	1-217-151-00	RES, METAL PLATE 0.22	
R1261	1-249-417-11	CARBON 1K 5% 1/4W F	
R1262	1-249-431-11	CARBON 15K 5% 1/4W	
R1263	1-249-441-11	CARBON 100K 5% 1/4W	
R1268	1-249-397-11	CARBON 22 5% 1/4W F	
R1269	1-249-397-11	CARBON 22 5% 1/4W F	
R1270	1-249-397-11	CARBON 22 5% 1/4W F	
R1271	1-249-397-11	CARBON 22 5% 1/4W F	

****

* 1-646-474-11 POWER SUPPLY BOARD

****

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C1301	1-161-744-00	CERAMIC 0.01uF 400V	
C1314	1-124-122-11	ELECT 100uF 20% 50V	
C1315	1-124-927-11	ELECT 4.7uF 20% 100V	
C1316	1-124-910-11	ELECT 47uF 20% 50V	
C1318	1-124-636-00	ELECT 3300uF 20% 25V	
C1348	1-164-159-11	CERAMIC 0.1uF 50V	(*4, 5, 6, 7, D259)
C1362	1-124-916-11	ELECT 22uF 20% 63V	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

POWER SUPPLY

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
* CN1301	1-564-321-00	PIN, CONNECTOR 2P	
CN1311	1-506-468-11	PIN, CONNECTOR 3P	
		< DIODE >	
D1307	8-719-002-60	DIODE UZL-33L	
D1309	8-719-014-66	DIODE UZP-5.6B	
D1311	8-719-200-82	DIODE 11ES2	
D1370	8-719-200-82	DIODE 11ES2	
D1321	8-719-987-63	DIODE 1N4148M	
D1322	8-719-987-63	DIODE 1N4148M	
D1354	8-719-200-82	DIODE 11ES2	
D1355	8-719-200-82	DIODE 11ES2	
		< TRANSISTOR >	
Q1301	8-729-141-83	TRANSISTOR 2SA473	
		< RESISTOR >	
R1303	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R1304	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R1391	1-202-725-00	SOLID 3.3M 10% 1/2W	(*11)
		< RELAY >	
RY1301	1-515-720-11	RELAY	
RY1301	1-515-738-11	RELAY, POWER	
		< TRANSFORMER >	
⚠T1302	1-449-723-31	TRANSFORMER, POWER	(EXCEPT *11)
⚠T1302	1-450-786-11	TRANSFORMER, POWER	(*11)
		< VOLTAGE SELECTION >	
⚠VS1301	1-572-266-11	SWITCH, VOLTAGE SELECTION	(A27)

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remarks
18	1-590-578-11	WIRE, FLAT TYPE (19 CORE)	
19	1-590-576-11	WIRE, FLAT TYPE (11 CORE)	
19	1-590-576-21	WIRE, FLAT TYPE (11 CORE)	(D209)
⚠64	1-575-651-11	CORD, POWER	(*4,,5,6,7,8,9)
⚠64	1-575-653-11	CORD, POWER	(A27:E)
⚠64	1-690-608-11	CORD, POWER	(A27:AU2)
⚠64	1-690-609-21	CORD, POWER	(*11)
⚠64	1-696-570-21	CORD, POWER	(*3,10)
⚠64	1-696-848-21	CORD, POWER	(*1)
⚠F1301	1-532-350-00	FUSE 4A	(A27,D209,*9,10)
⚠F1301	1-576-108-11	FUSE 4A	(*8,11)
⚠F1302	1-532-350-00	FUSE 4A	(A27,D209,*9,10)
⚠F1302	1-576-108-11	FUSE 4A	(*8,11)
⚠F1303	1-532-203-00	FUSE 2A	(D209,*9,10)
⚠F1303	1-532-286-00	FUSE 2.5A	(A27,D209,*9,10)
⚠F1303	1-576-104-11	FUSE 2A	(*8)
⚠F1304	1-532-203-00	FUSE 2A	(D209,*9,10)
⚠F1304	1-532-286-00	FUSE 2.5A	(A27,D209,*9,10)
⚠F1304	1-576-104-11	FUSE 2A	(*8)
⚠F1305	1-532-286-00	FUSE 2.5A	(A27,D209,*9,10)
⚠F1305	1-576-105-11	FUSE 2.5A	(*8,11)
⚠F1306	1-532-286-00	FUSE 2.5A	(A27,D209,*9,10)
⚠F1306	1-576-105-11	FUSE 2.5A	(*8,11)
⚠T1301	1-423-431-11	TRANSFORMER, POWER	(*11)
⚠T1301	1-423-437-11	TRANSFORMER, POWER	(D209)
⚠T1301	1-423-437-21	TRANSFORMER, POWER	(*8,9,10)
⚠T1301	1-423-438-11	TRANSFORMER, POWER	(*1)
⚠T1301	1-423-438-21	TRANSFORMER, POWER	(*2)

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
	1-465-963-11	COMMANDER, STANDARD (RM-S271)	
	1-501-374-11	ANTENNA, LOOP	(*4,5,7,8,D259:AE2)
	1-501-536-11	ANTENNA	(*4,5,7,8,D259:AE2)
	1-696-860-11	CORD, CONNECTION 13P	(*4,5,7,8,D259:AE2)
*	3-703-713-41	STICKER, SONY SYMBOL	(10)
	3-707-584-01	COVER, BATTERY	
	3-756-331-41	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUESE)	(D209:AE2)
	3-756-331-51	MANUAL, INSTRUCTION (GERMANY/DUTCH/SWEDISH/ITALIAN)	(D209:AE2,*4)
	3-756-331-61	MANUAL, INSTRUCTION (DANISH/FINNISH)	(*5)
	3-756-333-41	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGUESE)	(D259:AE2)
	3-756-333-51	MANUAL, INSTRUCTION (GERMANY/DUTCH/SWEDISH/ITALIAN)	(D259:AE2,*8)
*	4-956-903-01	INDIVIDUAL CARTON	(D209:AE2,*4)
*	4-958-606-01	CUSHION	(D209:AE2,*4)

****

****
HARDWARE LIST
****

Ref. No.	Part No.	Description
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-685-871-01	SCREW +BVTT 3X6 (S)

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Audio Group

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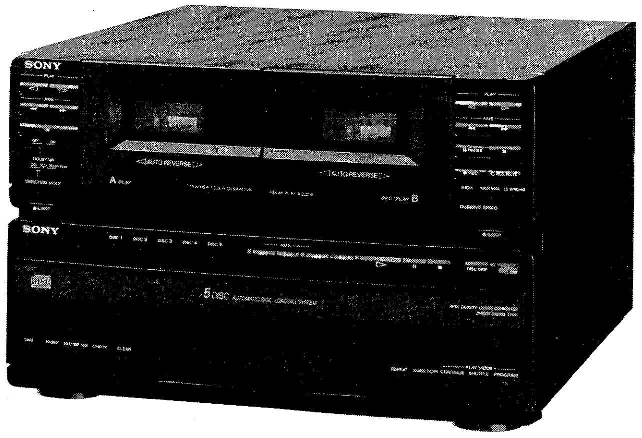
HTC-D259/D359

SERVICE MANUAL

Canadian Model
HTC-D259
AEP Model
UK Model
E Model
Australian Model
HTC-D259/D359
PX Model
HTC-D359



HTC-D259 is the compact disc deck in LBT-A27CDM / D259CD.
HTC-D359 is the compact disc deck in LBT-A37CDM / D359CD.

Photo: HTC-D359

SPECIFICATIONS

Cassette deck

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 13 kHz (±3 dB)
Wow and flutter	0.1% (WRMS)

Compact disc player

Laser	Semiconducotr laser
Wavelength	780 – 790 nm
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 93 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.008% (1 kHz)
Channel separation	More than 90 dB (1 kHz)

General

Mass	Approx. 6.9 kg
Dimensions	Approx. 355 × 225 × 385 mm (w/h/d, including projections)

Speaker systems (SS-D270)

Speaker system	2-way
Mass	Approx. 6.3 kg, per speaker
Dimensions	Approx. 260 × 505 × 210 mm (w/h/d)

Design and specifications are subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

CD Section	Model Name Using Similar Mechanism		HCD-H150/H500
	Base Unit Name		BU-5BD3
DECK Section	Model Name Using Similar Mechanism		HCD-H170 / H170K/H700
	Tape Transport Mechanism Type	DECK A	TCM-190RA12CL
		DECK B	TCM-190RB22CL

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

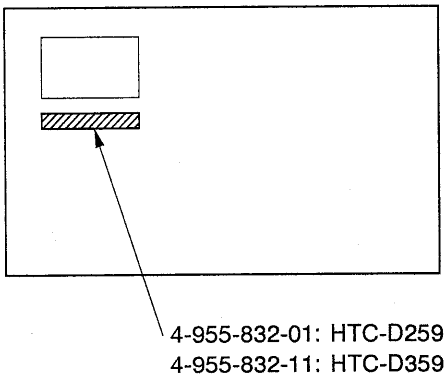
CAUTION ;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ;	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

COMPACT DISC DECK

SONY®

MODEL IDENTIFICATION

Back Panel



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

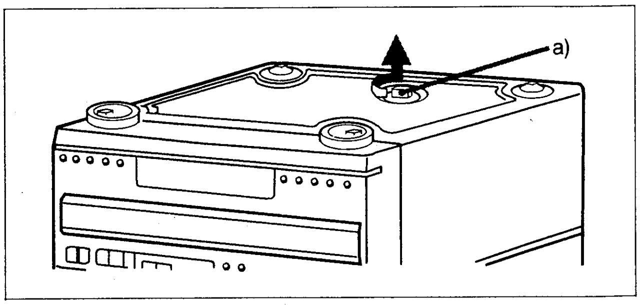
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Note on the Transit key



The transit key (a)) on the bottom exterior of the CD player protects the optical system against shock during transportation.
Before operating the unit, be sure to remove the key by following the instructions on the label, and store it in a safe place.
When transporting the unit, put the key to its original position and lock it in place.

TABLE OF CONTENTS

Section *Title* *Page*

Specifications ··· 1
Notes on Handling the Optical Pick-up Block or Base Unit ··· 2
Notes on Laser Diode Emission Check ··· 2
Note on the Transit Key ··· 2

1. **GENERAL** ··· 3

2. **ADJUSTMENTS**

2-1. Mechanical Adjustments ··· 4
2-2. Electrical Adjustments ··· 4
Cassette Deck Section ··· 4
CD Section ··· 7

3. **DIAGRAMS**

3-1. CD Section Block Diagram ··· 9
3-2. Cassette Deck Section Block Diagram ··· 11
3-3. CD Section Printed Wiring Boards ··· 14
3-4. CD Section Schematic Diagram ··· 17
3-5. Cassette Deck Section Schematic Diagram ··· 22
3-6. Cassette Deck Section Printed Wiring Boards ··· 27

4. **EXPLODED VIEWS** ··· 31

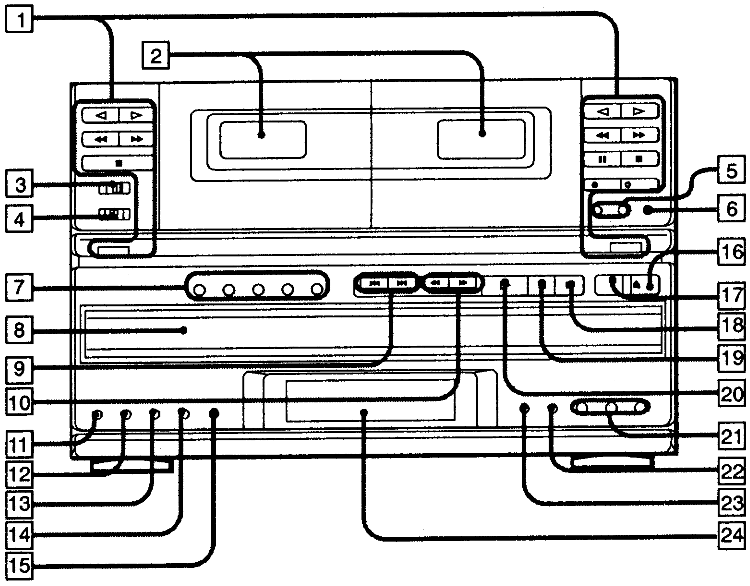
5. **ELECTRICAL PARTS LIST** ··· 38

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

SECTION 1
GENERAL



Location of Controls

Cassette Deck

1 Tape operation buttons
  ◀◀ Leftward fast winding/AMS*
  ▶▶ Rightward fast winding/AMS*
  ▶ Forward play
  ◀ Reverse play
  ■ Stop
  ⏏ EJECT
  ❚❚ PAUSE (deck B only)
  O REC MUTE (record muting) (deck B only)
  ● REC (record) (deck B only)
2 Cassette holders
3 DOLBY NR (noise reduction) switch (32, 82)
4 DIRECTION MODE selector (28, 32, 38, 82)
5 DUBBING SPEED (HIGH/NORMAL) button (38, 40)
6 CD SYNCHRO button (82, 86) (HTC-D359)

Compact Disc Player

7 DISC 1 – 5 buttons (42, 46, 50, 52, 54)
8 Disc tray
9 ⏮/⏭ (AMS*) buttons (46, 52, 54, 88, 96)
10 ◀◀/▶▶ (manual search) buttons (48, 88, 96)
11 TIME button (44)
12 FADER button (94)
13 EDIT/TIME FADE button (88, 94)
14 CHECK (program check) button (54)
15 CLEAR (program clear) button (56)
16 ⏏ OPEN/CLOSE button (42)
17 DISC SKIP button (42, 46)
18 ■ (stop) button (42)
19 ❚❚ (pause) button (42)
20 ▶ (play) button (42)
21 PLAY MODE button
  PROGRAM button (52, 86)
  SHUFFLE button (50)
  CONTINUE button (42)
22 MUSIC SCAN button (58)
23 REPEAT button (60)
24 Display window

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

Precautions:

1. Clean the following parts with a denatured-alcoholmoistened swab;
   record/playback/erase head
   pinch roller   rubber belts
   capstan   idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g · cm (0.49 to 0.83 oz · inch)
FWD Back tension	CQ-102C	2 to 6g·cm (0.03 to 0.08 oz·inch)
REV	CQ-102RC	35 to 60g · cm (0.49 to 0.83 oz · inch)
REV Back tension	CQ-102RC	2 to 6g·cm (0.03 to 0.08 oz·inch)
FF, REW	CQ-201B	70 to 110g · cm (0.98 to 1.52 oz · inch)

Chucking Arm Height Adjustment

This Adjustment should be performed after the electrical adjustment and on replacing adjusting screw, magnet, or chucking pulley.

Procedure :

1. Set disc (YEDS-18) to the optical pick-up block. (Fig. A)
2. Adjust the bracket (press pulley) to the center of the magnet with adjusting screw. (Fig. B)

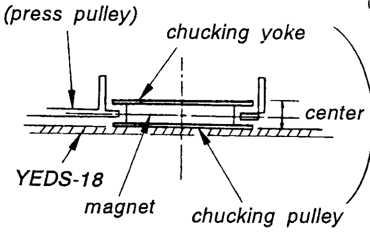


Fig. B

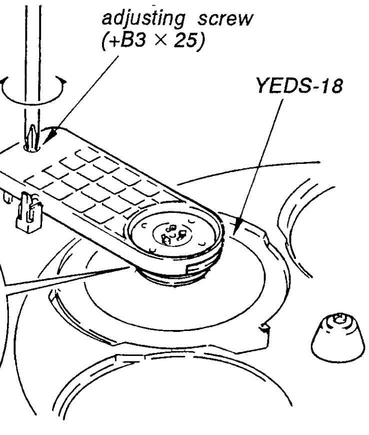


Fig. A

2-2. ELECTRICAL ADJUSTMENTS

0 dB=0.775 V (AF)

Precautions:

CASSETTE DECK SECTION

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
  TAPE : TYPE I

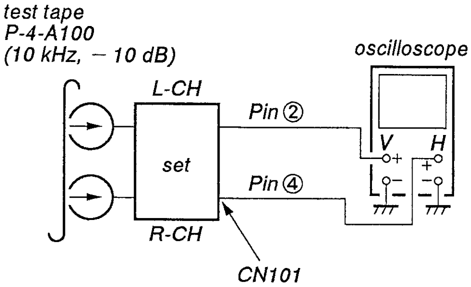
Type	Signal	Used for
P-4-A100	6.3kHz, −10dB	Azimath Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

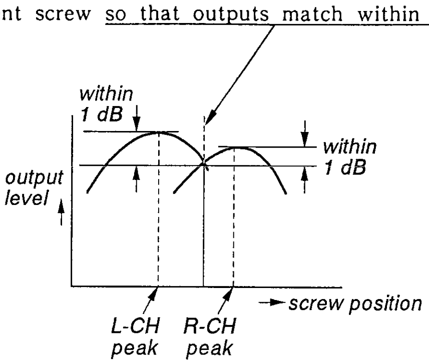
Note : Perform this adjustments for both decks.

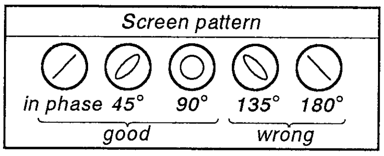
Procedure :

1. Mode : FWD playback



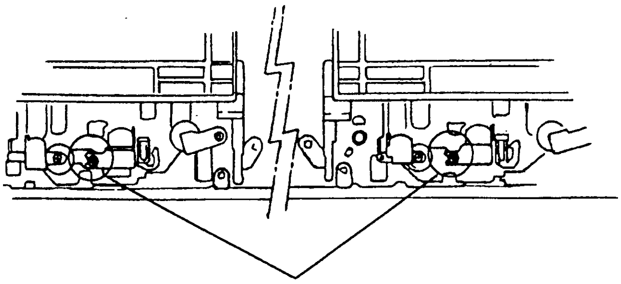
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.




Screen pattern
in phase
45°
90°
135°
180°
good
wrong

3. After the adjustments, apply suitable locking compound to the parts. adjusted.

Adjustment Location :

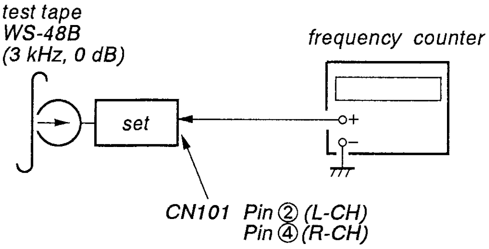


Adjustment screw
REC/PB head (deck B)
or PB head (deck A)

Tape Speed Adjustment. DECK A DECK B

Procedure :

Mode : playback


test tape
WS-48B
(3 kHz, 0 dB)
frequency counter
set
CN101 Pin ② (L-CH)
Pin ④ (R-CH)

- High speed adjustment (Must be first Adjustment B deck)
  1. Push HIGH speed button.
  2. Adjust RV71 so that the frequency counter reads 6,000±30Hz.

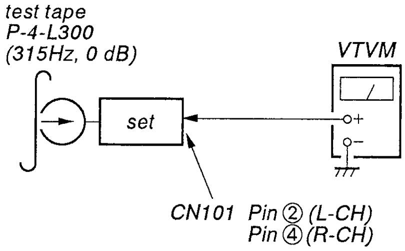
- NORMAL speed adjustment
  1. Push NORMAL speed button.
  2. Adjust RV72 so that the frequency counter reads 3,000±15Hz.

(See right for Adjusting Parts Location)

Frequency difference between deck A and deck B the beginning of the tape should be within 1%.

Playback Level Adjustment DECK A DECK B

Procedure :


test tape
P-4-L300
(315Hz, 0 dB)
VTVM
set
CN101 Pin ② (L-CH)
Pin ④ (R-CH)

Mode : FWD playback
DECK-A side RV11 (L-CH), RV21 (R-CH)
DECK-B side RV11 (L-CH), RV21 (R-CH)
so that the limits below are satisfied.

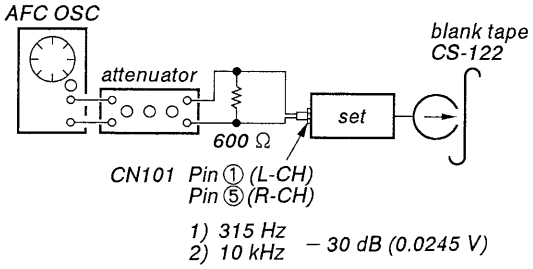
Adjustable limits :

CN101 level : − 7.7 ± 0.5dB (0.48 − 0.67V)
level difference between the channels : within 1.0dB
(See right for Adjusting Parts Location)

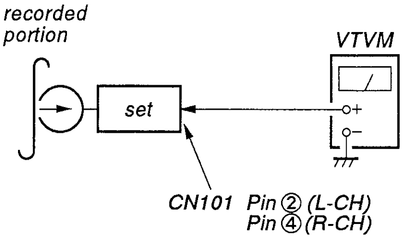
Record BIAS Current Adjustment DECK B

Procedure :

1. Mode : record


AFC OSC
attenuator
blank tape
CS-122
set
600 Ω
CN101 Pin ① (L-CH)
Pin ⑤ (R-CH)
1) 315 Hz
2) 10 kHz
− 30 dB (0.0245 V)

2. Mode : Playback


recorded
portion
VTVM
set
CN101 Pin ② (L-CH)
Pin ④ (R-CH)

Playback the signal recorder in step 1.
Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.
(See right for Adjusting Parts Location)

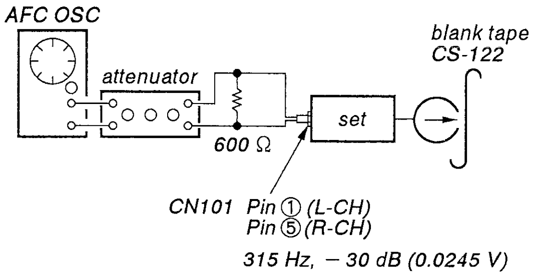
Record Level Adjustment DECK B

Setting :

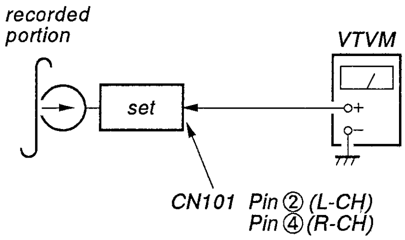
TAPE : TYPE I

Procedure :

1. Mode : record


AFC OSC
attenuator
600 Ω
set
blank tape
CS-122
CN101 Pin ① (L-CH)
Pin ⑤ (R-CH)
315 Hz, – 30 dB (0.0245 V)

2. Mode : playback

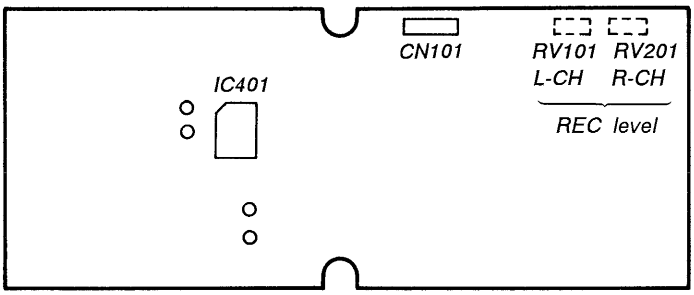

recorded
portion
set
VTVM
+
–
CN101 Pin ② (L-CH)
Pin ④ (R-CH)

3. Playback the signal recorded in step 1.
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-3.

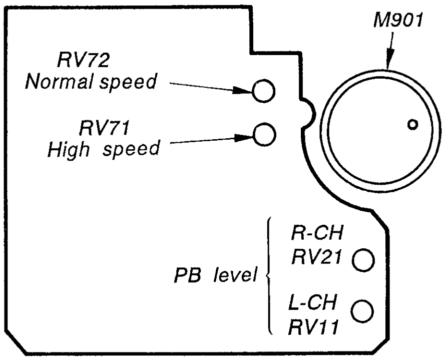
Adjustable : – 30.0 ± 0.5dB (0.0231 – 0.026V)
(See right for Adjusting Parts Location)

- **Adjusting Parts Location**

TC MAIN BOARD (Conductor Side)


CN101
RV101
RV201
L-CH
R-CH
REC level
IC401

AUDIO BOARD (Conductor Side)

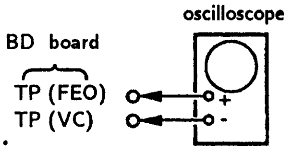

M901
RV72
Normal speed
RV71
High speed
PB level
R-CH
RV21
L-CH
RV11

CD SECTION

Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

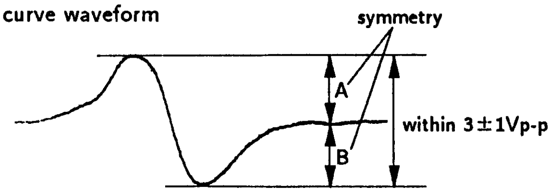
S Curve Check


oscilloscope
BD board
TP (FEO)
TP (VC)
+
-

Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

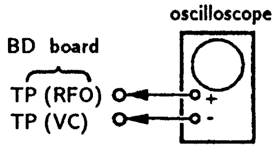
S curve waveform


symmetry
A
B
within 3±1Vp-p

5. After check, remove the lead wire connected in step 2.

Note :
- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check


oscilloscope
BD board
TP (RFO)
TP (VC)
+
-

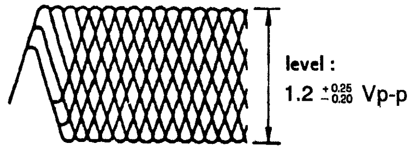
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

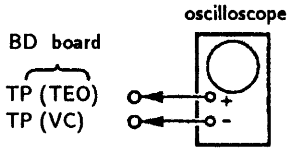
Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform


VOLT/DIV : 200mV
TIME/DIV : 500nS
level :
1.2 $^{+0.25}_{-0.20}$ Vp-p

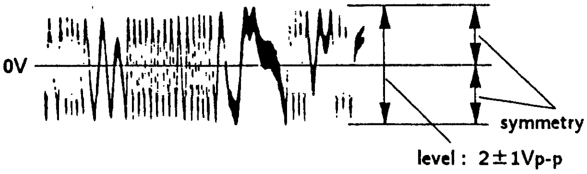
E-F Balance Check


oscilloscope
BD board
TP (TEO)
TP (VC)
+
-

Procedure :

1. Connect test point TP (TEST) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

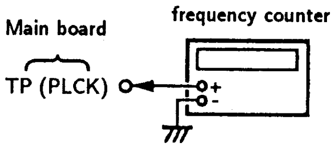

0V
symmetry
level : 2±1Vp-p

6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.


Main board
frequency counter
TP (PLCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

Focus/Tracking Gain

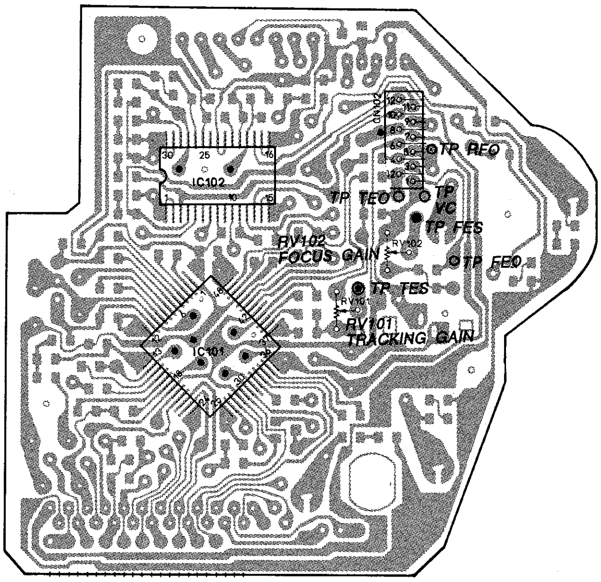
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

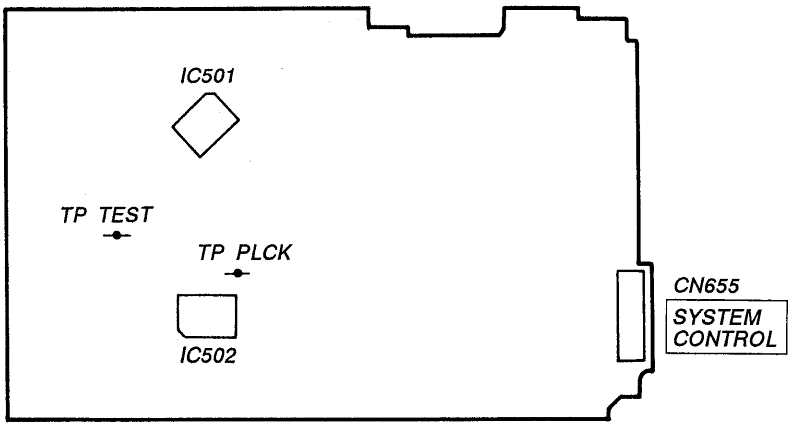
Adjustment Locations :
[BD board]

— conductor side —


IC102
30
25
16
15
10
CN102
TP RFO
TP TEO
TP VC
TP FES
RV102 FOCUS GAIN
RV102
TP FEO
TP TES
RV101
RV101 TRACKING GAIN
IC101

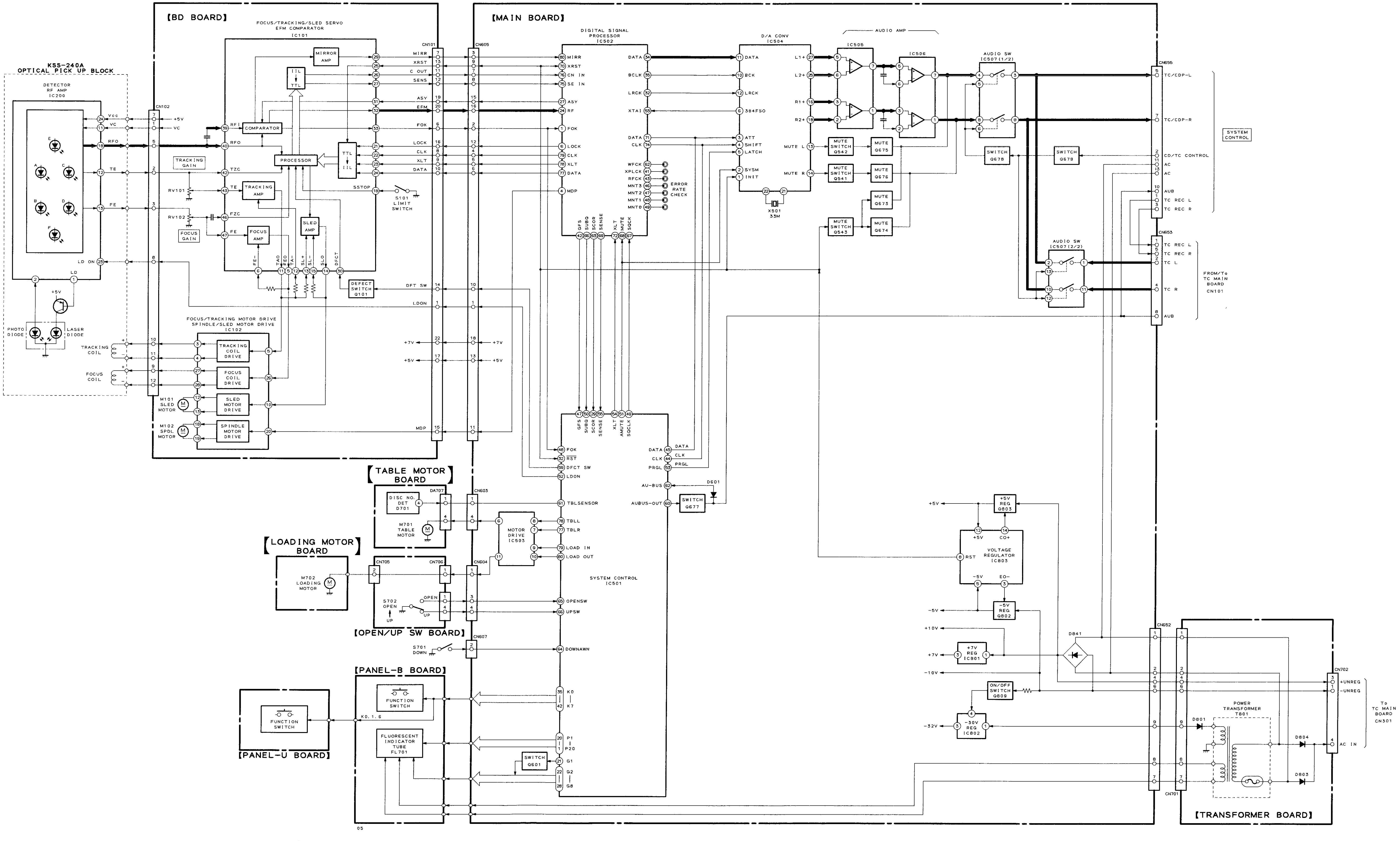
Adjustment Location ;

MAIN BOARD (Conductor Side)


IC501
TP TEST
TP PLCK
IC502
CN655
SYSTEM CONTROL

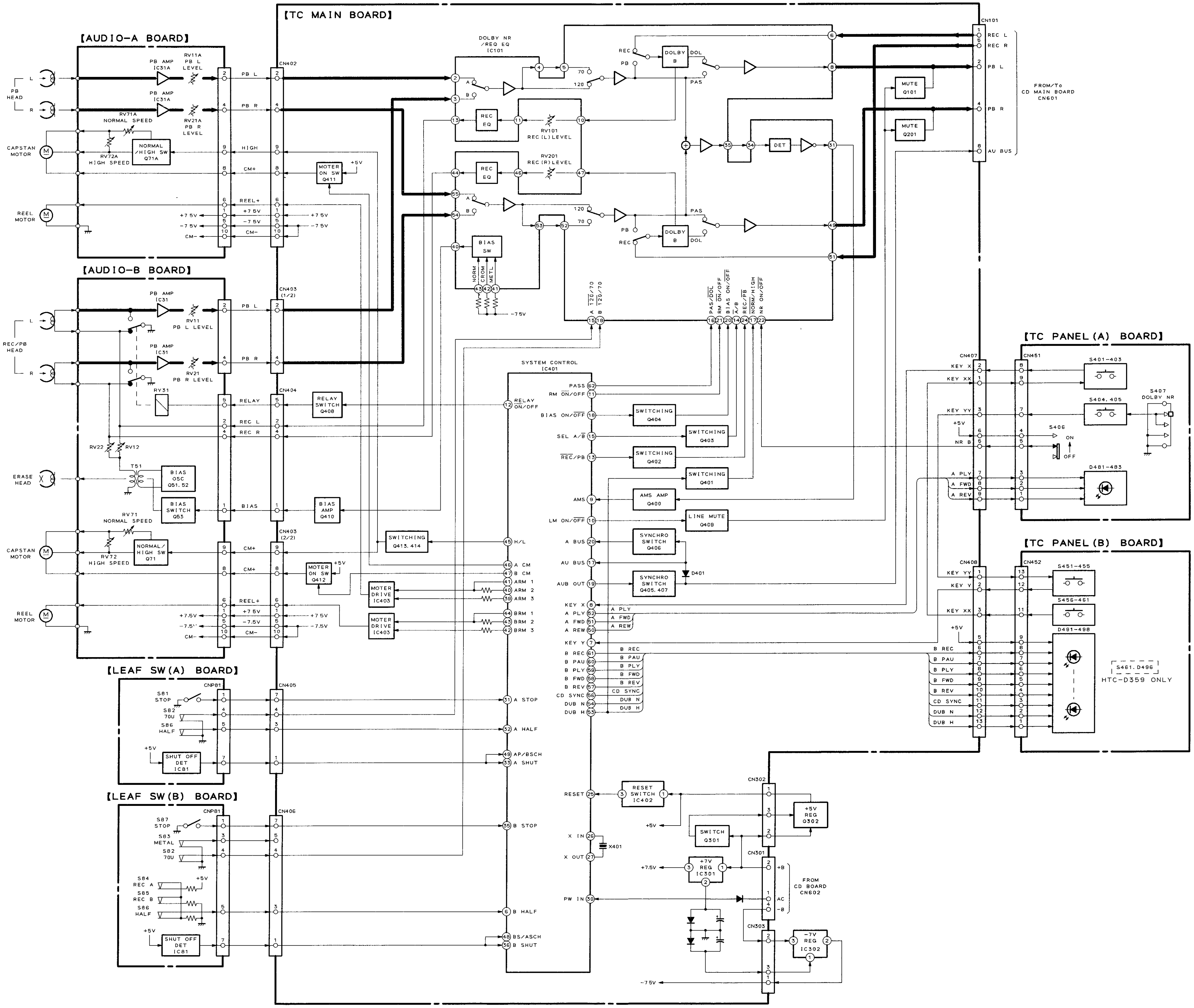
SECTION 3
DIAGRAMS

3-1. CD SECTION BLOCK DIAGRAM



BD BOARD
MAIN BOARD
KSS-240A OPTICAL PICK UP BLOCK
DETECTOR RF AMP IC200
FOCUS/TRACKING/SLED SERVO EFM COMPARATOR IC101
MIRROR AMP
COMPARATOR
PROCESSOR
TRACKING GAIN
TRACKING AMP
FOCUS GAIN
FOCUS AMP
SLED AMP
DEFECT SWITCH Q101
S101 LIMIT SWITCH
PHOTO DIODE
LASER DIODE
TRACKING COIL
FOCUS COIL
FOCUS/TRACKING MOTOR DRIVE SPINDLE/SLED MOTOR DRIVE IC102
TRACKING COIL DRIVE
FOCUS COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
M101 SLED MOTOR
M102 SPDL MOTOR
RV101
RV102
CN101
CN102
CN605
DIGITAL SIGNAL PROCESSOR IC502
ERROR RATE CHECK
D/A CONV IC504
X501 33M
AUDIO AMP
IC505
IC506
AUDIO SW IC507(1/2)
AUDIO SW IC507(2/2)
MUTE SWITCH Q542
MUTE SWITCH Q541
MUTE SWITCH Q543
MUTE Q675
MUTE Q676
MUTE Q673
MUTE Q674
SWITCH Q678
SWITCH Q679
SYSTEM CONTROL
CN656
CN653
TC/CDP-L
TC/CDP-R
CD/TC CONTROL
TC REC L
TC REC R
TC L
TC R
AUB
FROM/TO TC MAIN BOARD CN101
TABLE MOTOR BOARD
DISC NO. DET D701
M701 TABLE MOTOR
LOADING MOTOR BOARD
M702 LOADING MOTOR
OPEN/UP SW BOARD
S702 OPEN UP
S701 DOWN
MOTOR DRIVE IC503
SYSTEM CONTROL IC501
SWITCH Q677
D601
PANEL-B BOARD
FUNCTION SWITCH
FLUORESCENT INDICATOR TUBE FL701
SWITCH Q601
PANEL-U BOARD
+5V REG Q803
VOLTAGE REGULATOR IC803
-5V REG Q802
+7V REG IC801
ON/OFF SWITCH Q809
-30V REG IC802
D841
CN652
CN701
CN702
D801
D803
D804
POWER TRANSFORMER T801
TRANSFORMER BOARD
+UNREG
-UNREG
AC IN
To TC MAIN BOARD CN501

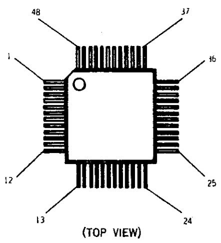
3-2. CASSETTE DECK SECTION BLOCK DIAGRAM



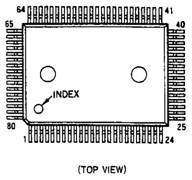
【TC MAIN BOARD】
【AUDIO-A BOARD】
【AUDIO-B BOARD】
【LEAF SW(A) BOARD】
【LEAF SW(B) BOARD】
【TC PANEL(A) BOARD】
【TC PANEL(B) BOARD】
PB HEAD
REC/PB HEAD
ERASE HEAD
CAPSTAN MOTOR
REEL MOTOR
PB AMP IC31A
RV11A PB L LEVEL
RV21A PB R LEVEL
RV71A NORMAL SPEED
RV72A HIGH SPEED
NORMAL /HIGH SW Q71A
PB AMP IC31
RV11 PB L LEVEL
RV21 PB R LEVEL
RY31
RV22
RV12
T51
BIAS OSC Q51, 52
BIAS SWITCH Q53
RV71 NORMAL SPEED
RV72 HIGH SPEED
NORMAL/ HIGH SW Q71
CN402
CN403 (1/2)
CN404
CN403 (2/2)
CN405
CN406
CNP81
PB L
PB R
HIGH
CM+
REEL+
+7.5V
-7.5V
CM-
RELAY
REC L
REC R
BIAS
MOTER ON SW Q411
MOTER ON SW Q412
RELAY SWITCH Q408
BIAS AMP Q410
SWITCHING Q413, 414
MOTER DRIVE IC403
+5V
DOLBY NR /REQ EQ IC101
REC EQ
RV101 REC(L)LEVEL
RV201 REC(R)LEVEL
BIAS SW
NORM
CROM
METAL
-7.5V
DOLBY B
DOL
PAS
REC
PB
70
120
DET
MUTE Q101
MUTE Q201
CN101
REC L
REC R
PB L
PB R
AU BUS
FROM/To CD MAIN BOARD CN601
A 120/70
B 120/70
PAS/DOL
RM ON/OFF
BIAS ON/OFF
A/B
REC/PB
NORM/HIGH
NR ON/OFF
SYSTEM CONTROL IC401
PASS
RM ON/OFF
RELAY ON/OFF
BIAS ON/OFF
SEL A/B
REC/PB
AMS
LM ON/OFF
A BUS
AU BUS
AUB OUT
SWITCHING Q404
SWITCHING Q403
SWITCHING Q402
SWITCHING Q401
AMS AMP Q400
LINE MUTE Q409
SYNCHRO SWITCH Q406
SYNCHRO SWITCH Q405, 407
D401
H/L
A CM
B CM
ARM 1
ARM 2
ARM 3
BRM 1
BRM 2
BRM 3
KEY X
A PLY
A FWD
A REW
KEY Y
B REC
B PAU
B PLY
B FWD
B REV
CD SYNC
DUB N
DUB H
A STOP
A HALF
AP/BSCH
A SHUT
B STOP
B HALF
BS/ASCH
B SHUT
S81 STOP
S82 70U
S86 HALF
S87 STOP
S83 METAL
S84 REC A
S85 REC B
SHUT OFF DET IC81
RESET
RESET SWITCH IC402
X IN
X OUT
X401
PW IN
CN302
CN301
CN303
+5V REG Q302
SWITCH Q301
+7V REG IC301
-7V REG IC302
FROM CD BOARD CN602
+B
AC
-B
CN407
CN451
KEY XX
KEY YY
NR B
A REV
S401-403
S404, 405
S407 DOLBY NR
S406
ON
OFF
D481-483
CN408
CN452
S451-455
S456-461
D491-498
S461, D496 HTC-D359 ONLY

• Semiconductor Lead Layouts

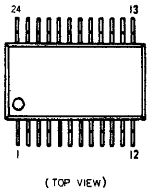
CXA1372AQ


48
37
1
36
12
25
13
24
(TOP VIEW)

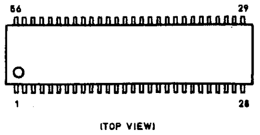
CXD2500BQ
CXP50120-024Q


64
41
65
40
INDEX
80
25
1
24
(TOP VIEW)

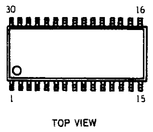
CXD2565M


24
13
1
12
(TOP VIEW)

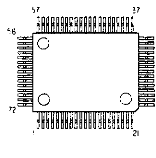
HA12171NT


56
29
1
28
(TOP VIEW)

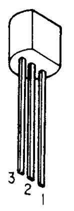
LA6532M


30
16
1
15
TOP VIEW

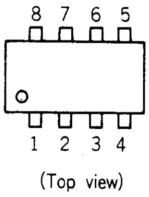
M50964-256FP


57
37
58
36
72
22
21

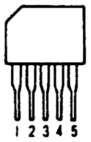
M51943BSL



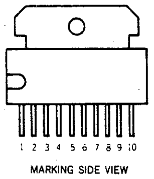
M5218AP


8 7 6 5
1 2 3 4
(Top view)

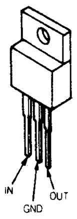
M5293L



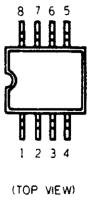
TA7272P


1 2 3 4 5 6 7 8 9 10
MARKING SIDE VIEW

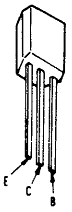
TA7807S



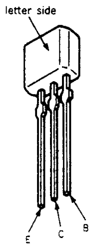
μPC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

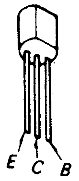
DTA114ES
DTA144ES
DTC144ES
2SC2603-EF



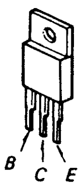
2SA1175-HFE
2SC3623A-LK


letter side
E
C
B

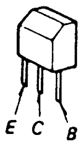
2SB1013-4



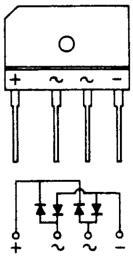
2SB1094-LK



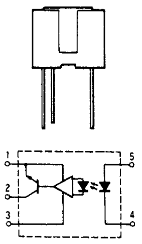
2SD774-34



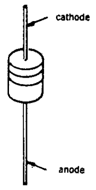
D2SB20



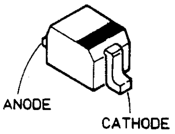
GP-1A521



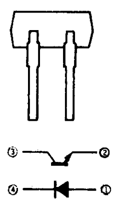
HZS7C2L
UZL-7L1
UZL-7L2
UZ-2.7BS
11ES2


cathode
anode

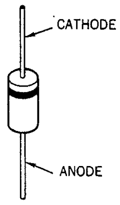
MA110


ANODE
CATHODE

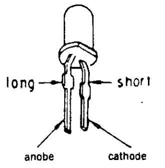
NJL5165K-B



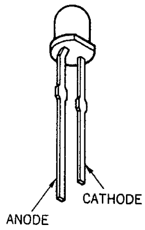
1N4148M


CATHODE
ANODE

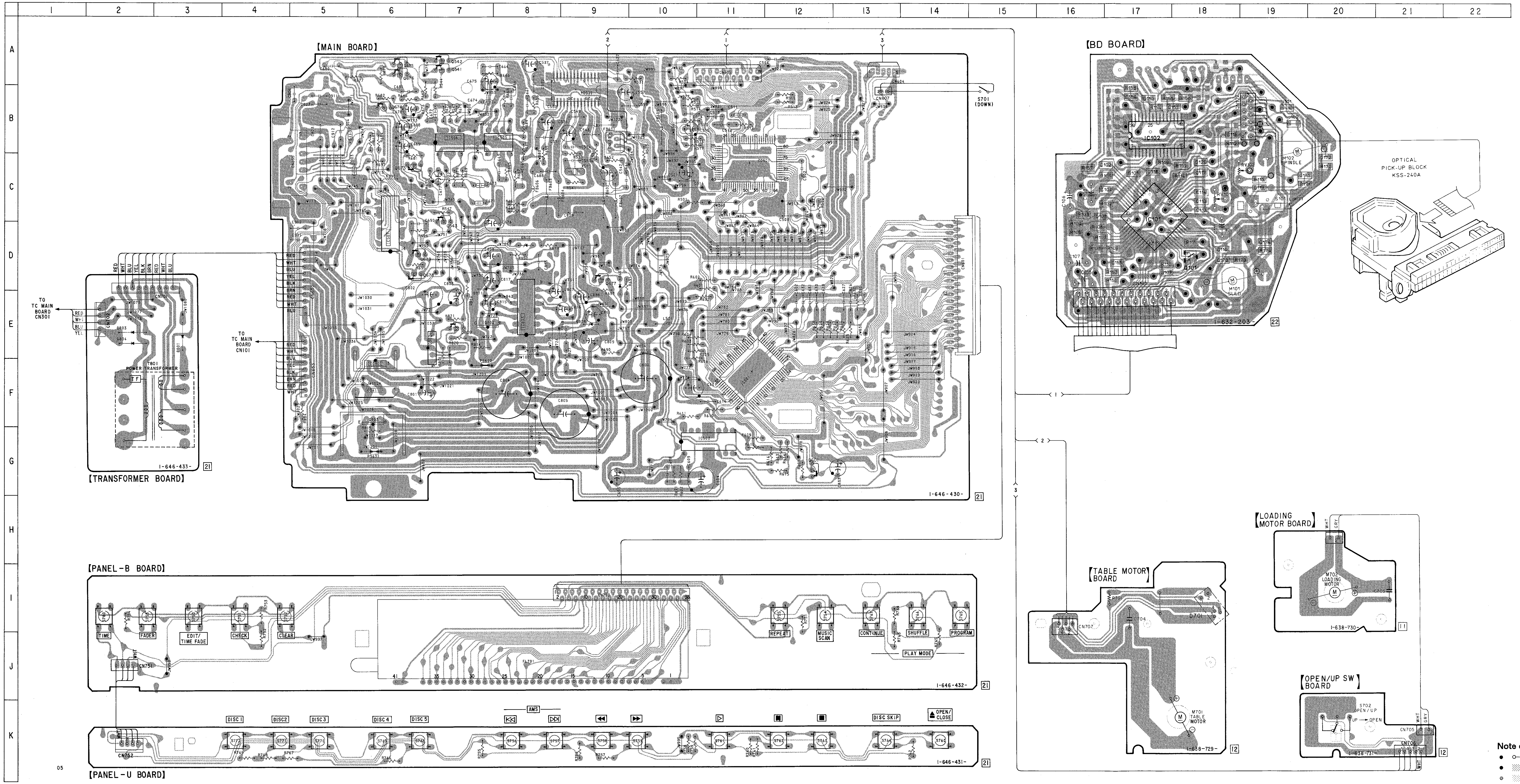
SEL2210S-CD
SEL2410E-TH10


long
short
anobe
cathode

SEL2810A


ANODE
CATHODE

3-3. CD SECTION PRINTED WIRING BOARDS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15
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17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
K
[MAIN BOARD]
S701 (DOWN)
CN907
1-646-430-
21
TO TC MAIN BOARD CN301
TO TC MAIN BOARD CN101
RED
WHT
BLU
YEL
BLK
GRN
T801 POWER TRANSFORMER
1-646-433-
[TRANSFORMER BOARD]
[BD BOARD]
IC102
IC101
M102 SPINDLE
M101 SLED
1-632-203-
22
OPTICAL PICK-UP BLOCK KSS-240A
[PANEL-B BOARD]
TIME
FADER
EDIT/ TIME FADE
CHECK
CLEAR
REPEAT
MUSIC SCAN
CONTINUE
SHUFFLE
PROGRAM
PLAY MODE
FL701
CN751
1-646-432-
[PANEL-U BOARD]
DISC 1
DISC2
DISC3
DISC4
DISC5
AMS
DISC SKIP
OPEN/ CLOSE
CN762
1-646-431-
05
[TABLE MOTOR BOARD]
CN707
D701
M701 TABLE MOTOR
1-638-729-
12
[LOADING MOTOR BOARD]
M702 LOADING MOTOR
1-638-730-
11
[OPEN/UP SW BOARD]
S702 OPEN/UP
UP
OPEN
CN705
CN706
1-638-731-

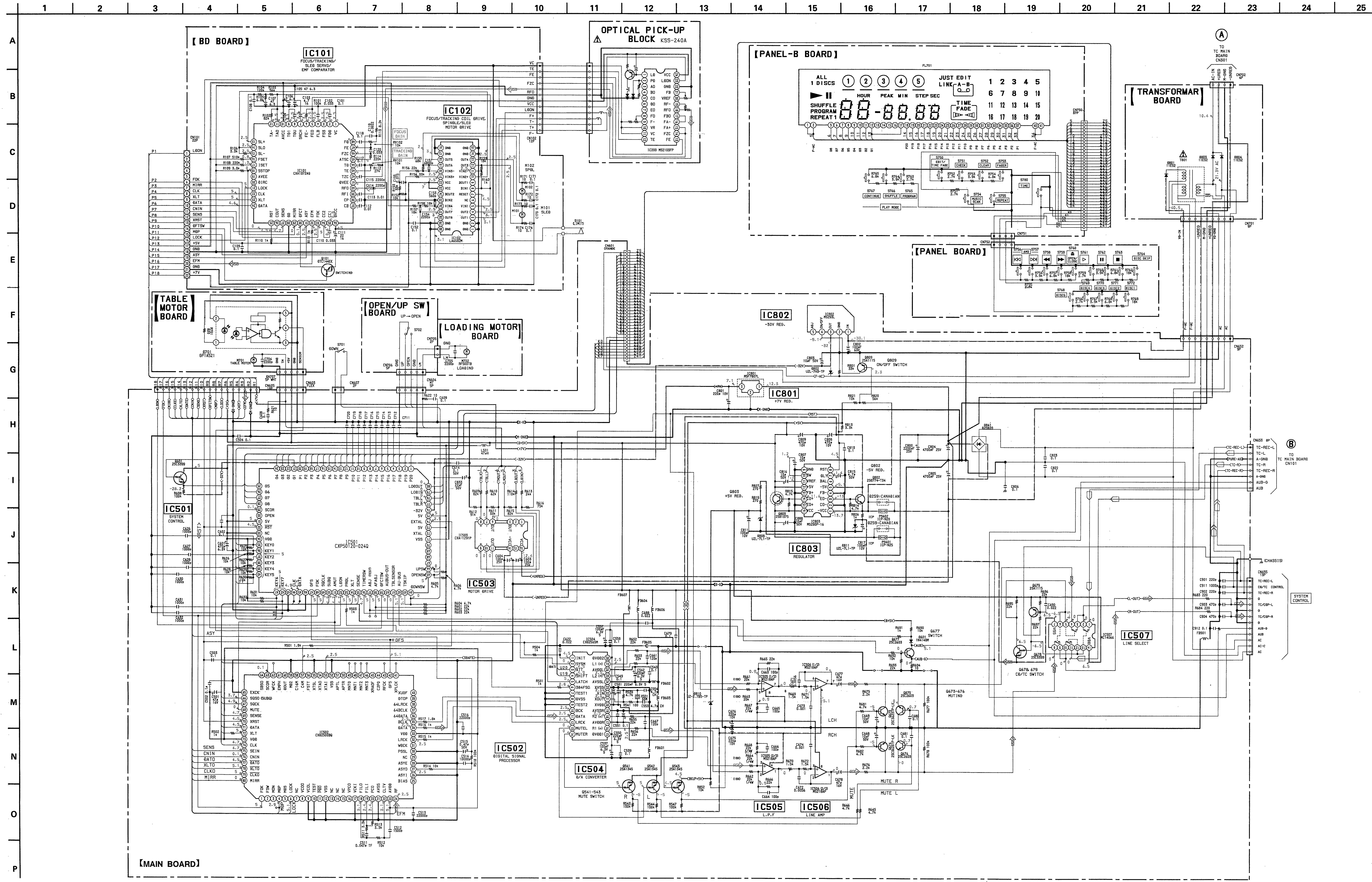
• Semiconductor Location

Ref. No.	Location
D601	D-9
D701	I-18
D801	E-3
D802	E-7
D803	E-2
D804	E-2
D808	E-9
D810	D-8
D811	D-7
D841	F-6
IC101	C-17
IC102	B-17
IC501	F-11
IC502	C-11
IC503	G-11
IC504	B-9
IC505	B-8
IC506	B-7
IC507	D-6
IC801	F-6
IC802	E-7
IC803	E-8

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ▒ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

3-4. CD SECTION SCHEMATIC DIAGRAM


1
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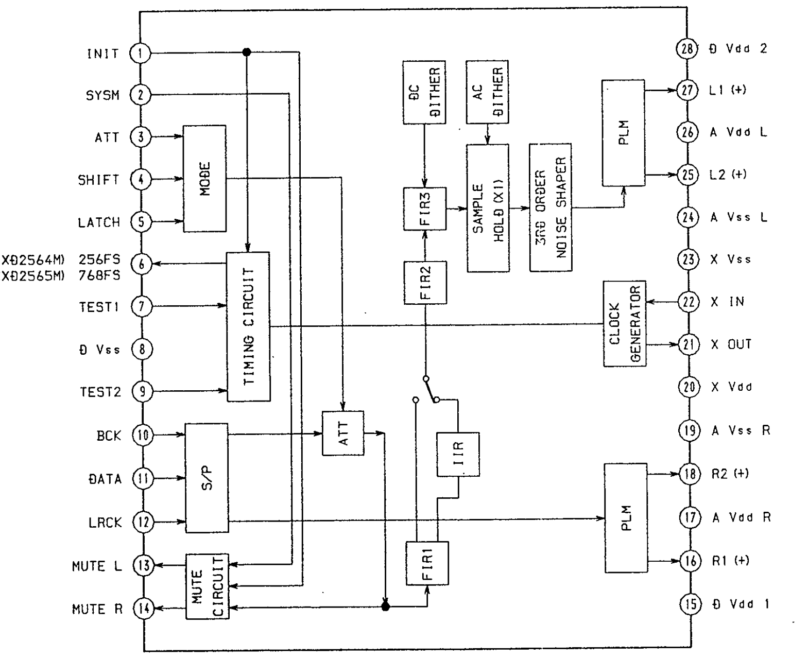
20
21
22
23
24
25
26
27
28
29
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
【BD BOARD】
IC101
FOCUS/TRACKING/SLED SERVO/EMF COMPARATOR
IC102
FOCUS/TRACKING COIL DRIVE, SPINDLE/SLED MOTOR DRIVE
OPTICAL PICK-UP BLOCK KSS-240A
【PANEL-B BOARD】
ALL 1 DISCS
1 2 3 4 5
JUST EDIT
LINE A-B
SHUFFLE
PROGRAM
REPEAT 1
HOUR
PEAK MIN
STEP SEC
TIME
FADE
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
【TRANSFORMAR BOARD】
【PANEL BOARD】
Ⓐ
TO TC MAIN BOARD CN501
【TABLE MOTOR BOARD】
【OPEN/UP SW BOARD】
UP→OPEN
【LOADING MOTOR BOARD】
IC802
-50V REG.
IC801
+7V REG.
IC803
REGULATOR
IC501
SYSTEM CONTROL
IC501 CXP50120-024Q
IC503
MOTOR DRIVE
IC502
DIGITAL SIGNAL PROCESSOR
IC502 CXD2500BQ
IC504
D/A CONVERTER
IC505
L.P.F
IC506
LINE AMP
IC507
LINE SELECT
Q541-543
MUTE SWITCH
Q673-676
MUTING
Q678,679
CD/TC SWITCH
Q677
SWITCH
Q809
ON/OFF SWITCH
Q803
+5V REG.
Q802
-5V REG.
LCH
RCH
MUTE R
MUTE L
Ⓑ
TO TC MAIN BOARD CN101
SYSTEM CONTROL
【MAIN BOARD】


IC504 CXD2565M

INIT 1
SYSM 2
ATT 3
SHIFT 4
LATCH 5
(CXD2564M) 256FS
(CXD2565M) 768FS 6
TEST1 7
D Vss 8
TEST2 9
BCK 10
DATA 11
LRCK 12
MUTE L 13
MUTE R 14
15 D Vdd 1
16 R1 (+)
17 A Vdd R
18 R2 (+)
19 A Vss R
20 X Vdd
21 X OUT
22 X IN
23 X Vss
24 A Vss L
25 L2 (+)
26 A Vdd L
27 L1 (+)
28 D Vdd 2
MODE
TIMING CIRCUIT
S/P
MUTE CIRCUIT
ATT
FIR1
FIR2
FIR3
IIR
DC DITHER
AC DITHER
SAMPLE HOLD (X1)
3RD ORDER NOISE SHAPER
PLM
PLM
CLOCK GENERATOR

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬▬ : B + Line.
- ▬ ▬ ▬ : B – Line.
- ☐ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark :CD PLAY (COMMON)
  (   ) :DECK A PB
  ≪ ≫ :DECK B PB
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)

3-5. CASSETTE DECK SECTION SCHEMATIC DIAGRAM

DECK-A
[AUDIO BOARD]
DECK-B
[AUDIO-B BOARD]
[TC MAIN BOARD]
IC101
DOLBY B NR/REC EQ/AMS
IC101 HA12171NT
IC31
PB EQ AMP
IC301
7V REG.
IC302
-7V REG.
IC401
SYSTEM CONTROL
IC402
RESET
IC403
REEL MOTOR DRIVE
IC81
SHUT OFF DET
DECK-A [LEAF SW-A BOARD]
DECK-B [LEAF SW-B BOARD]
[TC PANEL (A) BOARD]
[TC PANEL (B) BOARD]
TO MAIN BOARD CN653
TO TRANSFORMER BOARD
Q410 BIAS AMP
Q411 DECK-A MOTOR ON SW
Q412 DECK-B MOTOR ON SW
Q413, 414 NORMAL/HIGH SWITCH
Q408 RELAY SWITCH
Q405-407 SYNCHRO SWITCH
Q402-404 SWITCH
Q409 BUFFER
Q401 HIGH SPEED DUBBING SWITCH
Q400 AMS SWITCH
Q101, 102 MUTING
Q301 6V REG.
Q302 5V REG.
Q51, 52 BIAS OSC
Q53 BIAS RED
Q71 N/H SWITCH
HP101
HRP101
HE101 ER.
M102A CAP
M101A REEL
M102B CAP
M101B REEL
B.HALF
TAPE.OUT 5.5V
TAPE.IN 2.3V
NO.TUB.A 1.1
NO.TUB.B 4.3
NO.TUB.AB 3.1
PLAY
STOP
REC-START
LM
R/P
RLY
BIAS
RM
S401, 0481 0481 S403, 0483
S452, 0492
S453, 0494 0493
S454, 0495
S456
S457
S458, 0491
S459, 0498 HIGH DUBBING SPEED
S460, 0497 NORMAL
S461, 0496 CD S/N CHRO
HTC-D359
S461 0496 HTC-D359 ONLY
SEL2210S=RED
SEL2810A=ANBER
SEL2410E=GREEN
PAUSE
PLAY
REC
AMS
DOLBY NR
DIRECTION MODE
REL MUTE

Note on Schematic Diagram:

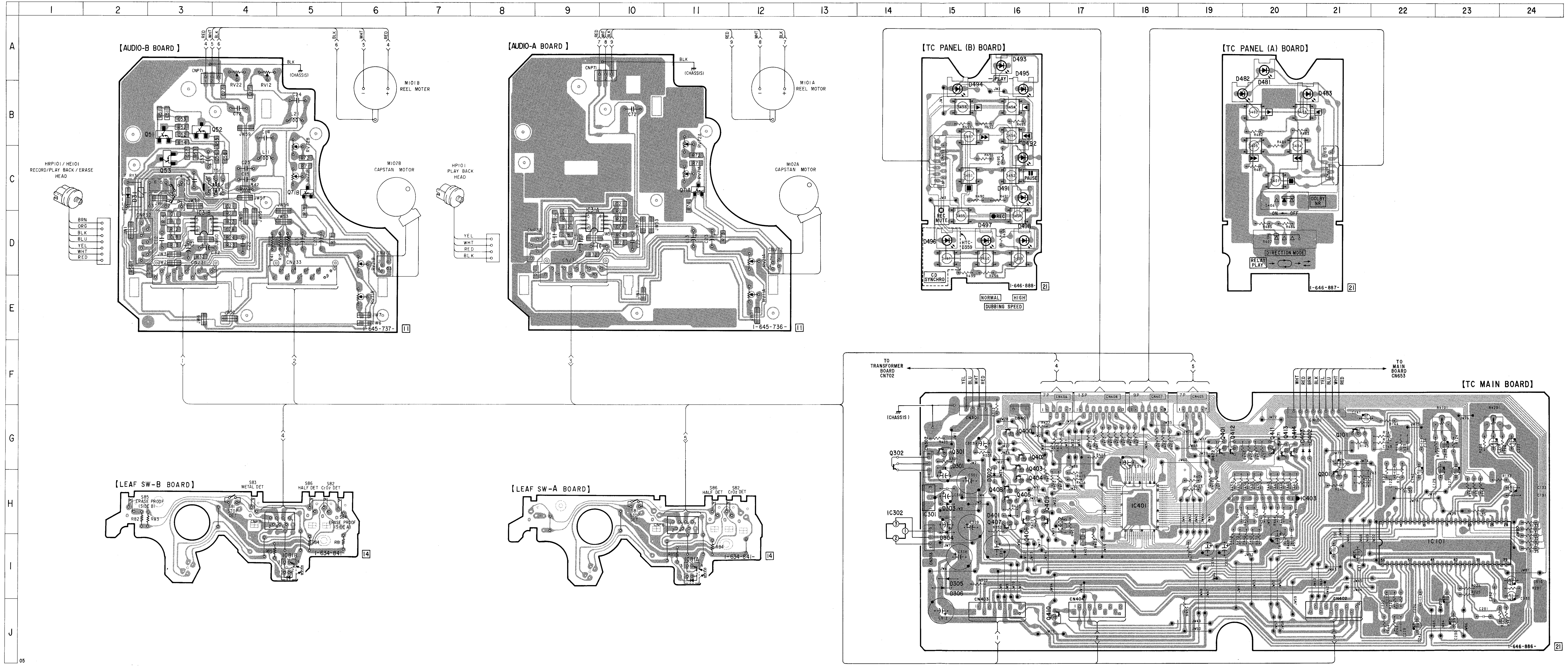
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
- ☐ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark :REC (COMMON)
  (   ) :DECK A PB
  ≪   ≫ :DECK B PB
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)

3-6. CASSETTE DECK SECTION PRINTED WIRING BOARDS

- See page 13 for Semiconductor Lead Layouts.


[AUDIO-B BOARD]
[AUDIO-A BOARD]
[TC PANEL (B) BOARD]
[TC PANEL (A) BOARD]
[TC MAIN BOARD]
[LEAF SW-B BOARD]
[LEAF SW-A BOARD]
HRP101 / HE101 RECORD/PLAY BACK / ERASE HEAD
HP101 PLAY BACK HEAD
M101B REEL MOTER
M101A REEL MOTER
M102B CAPSTAN MOTOR
M102A CAPSTAN MOTOR
(CHASSIS)
BRN
ORG
BLK
BLU
YEL
WHT
RED
TO TRANSFORMER BOARD CN702
TO MAIN BOARD CN653
NORMAL
HIGH
DUBBING SPEED
DIRECTION MODE
RELAY PLAY
DOLBY NR
CD SYNCHRO
PAUSE
REC MUTE
S83 METAL DET
S85 ERASE PROOF (SIDE B)
S86 HALF DET
S82 CrO2 DET
S84 ERASE PROOF (SIDE A)
1-645-737-
1-645-736-
1-646-888-
1-646-887-
1-646-886-
1-634-841-
11
21
14
IC101
IC301
IC302
IC401
Q302
1
2
3
4
5
6
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8
9
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12
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14
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16
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I
J

• Semiconductor Location

Ref. No.	Location
D31	C-2
D301	G-15
D302	H-16
D303	H-15
D304	H-15
D305	I-15
D306	I-15
D401	H-16
D402	G-21
D403	G-20
D481	A-20
D482	B-19
D483	B-21
D491	C-16
D492	C-16
D493	A-16
D494	B-15
D495	B-16
D496	D-15
D497	D-16
D498	D-16
IC31A	D-9
IC31B	D-3
IC101	I-22
IC301	H-15
IC302	H-14
IC401	H-18
IC402	H-17
IC403	H-20
Q51	B-3
Q52	B-3
Q53	C-3
Q71A	C-11
Q71B	C-5
Q101	G-21
Q201	H-21
Q301	G-15
Q302	G-14
Q400	G-16
Q401	G-19
Q402	G-16
Q403	G-16
Q404	H-16
Q405	H-16
Q406	H-16
Q407	H-16
Q408	H-16
Q409	H-16
Q410	J-17
Q411	G-20
Q412	G-19
Q413	G-20
Q414	G-20

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.

SECTION 4
EXPLODED VIEWS

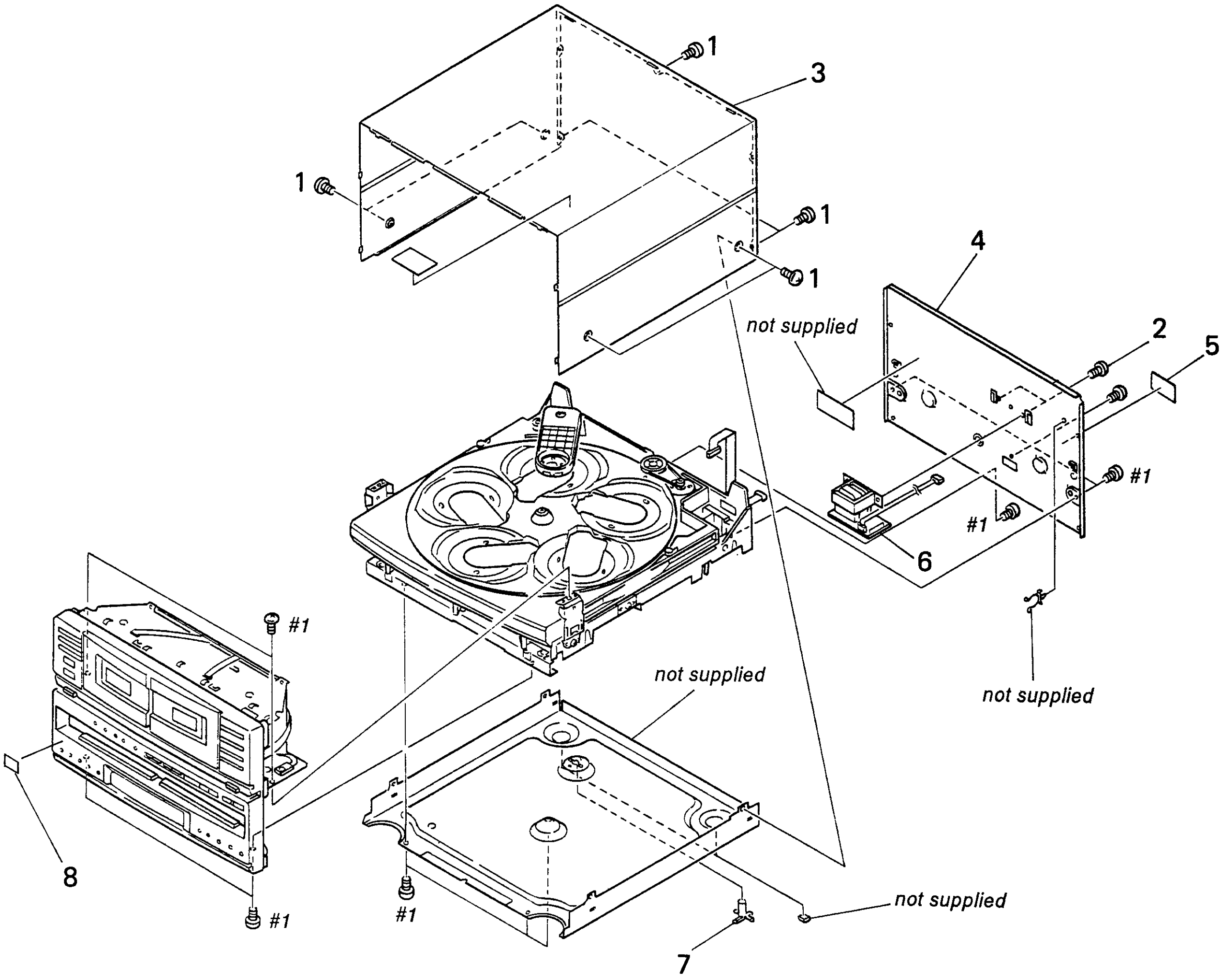
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "＊" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviations
  AUS: Australian Model
  IT: Italian Model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

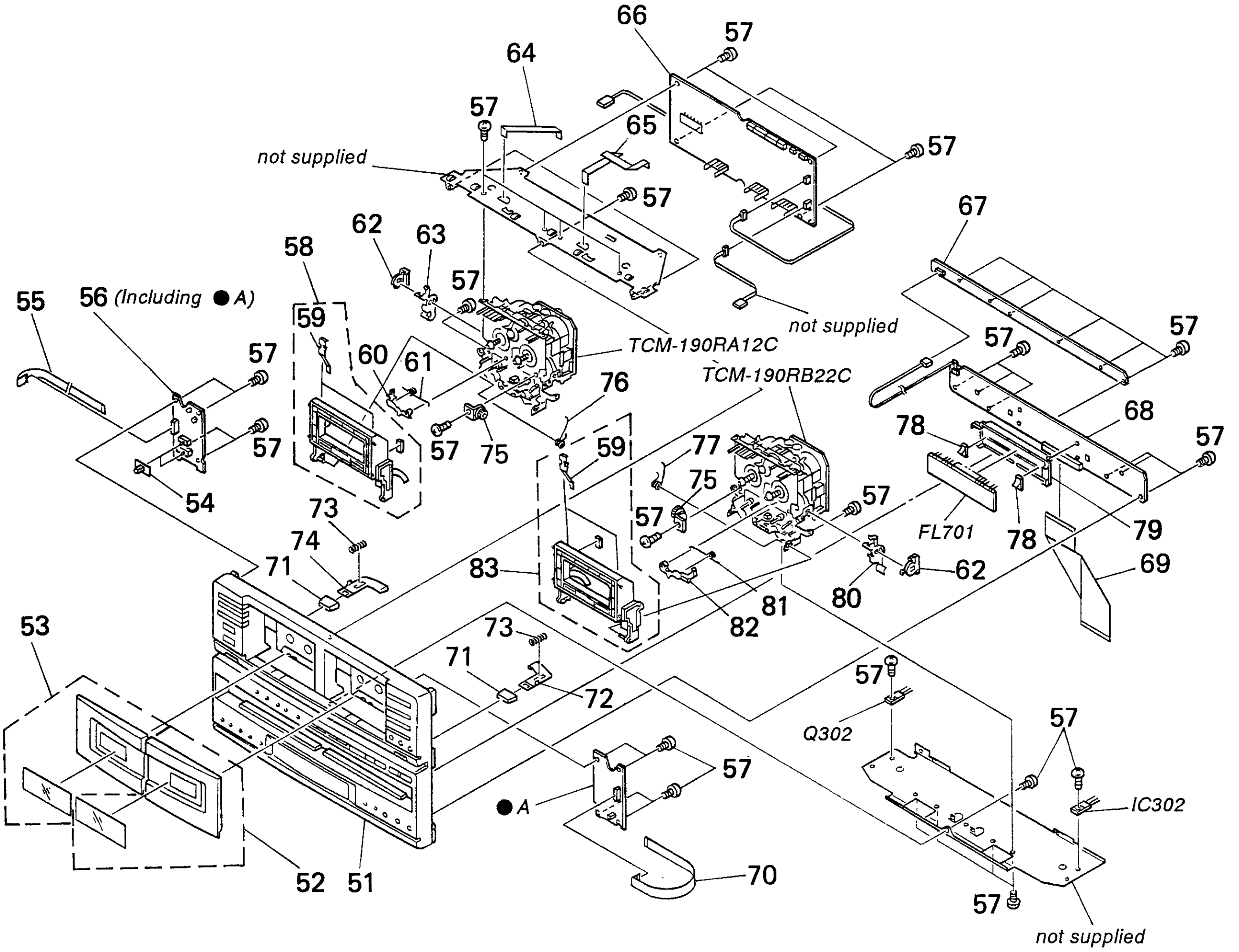
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) CASE SECTION



Ref. No.	Part No.	Description	Remark
1	3-363-099-01	SCREW (CASE 3 TP2) (D359)	
1	3-704-366-01	SCREW (CASE) (M3X8) (D259)	
2	3-704-515-31	SCREW (BV/RING)	
* 3	4-955-795-31	CASE	
* 4	4-955-832-01	PANEL, BACK (D259)	
* 4	4-955-832-11	PANEL, BACK (D359)	
* 5	4-941-548-01	LABEL, CLASS 1 (D259:AEP, UK, E, IT, AUS, D359)	
* 6	1-646-433-21	TRANSFORMER BOARD	
7	4-937-945-01	PLATE (TRANSPORT), LOCK	
* 8	3-703-713-41	STICKER, SONY SYMBOL (10) (D359)	

(2) FRONT PANEL ASSEMBLY SECTION



66
57
64
57
65
57
not supplied
57
67
62
63
58
57
55
56 (Including ●A)
59
not supplied
57
TCM-190RA12C
60
61
57
TCM-190RB22C
76
78
68
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75
54
57
73
74
FL701
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79
71
83
62
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72
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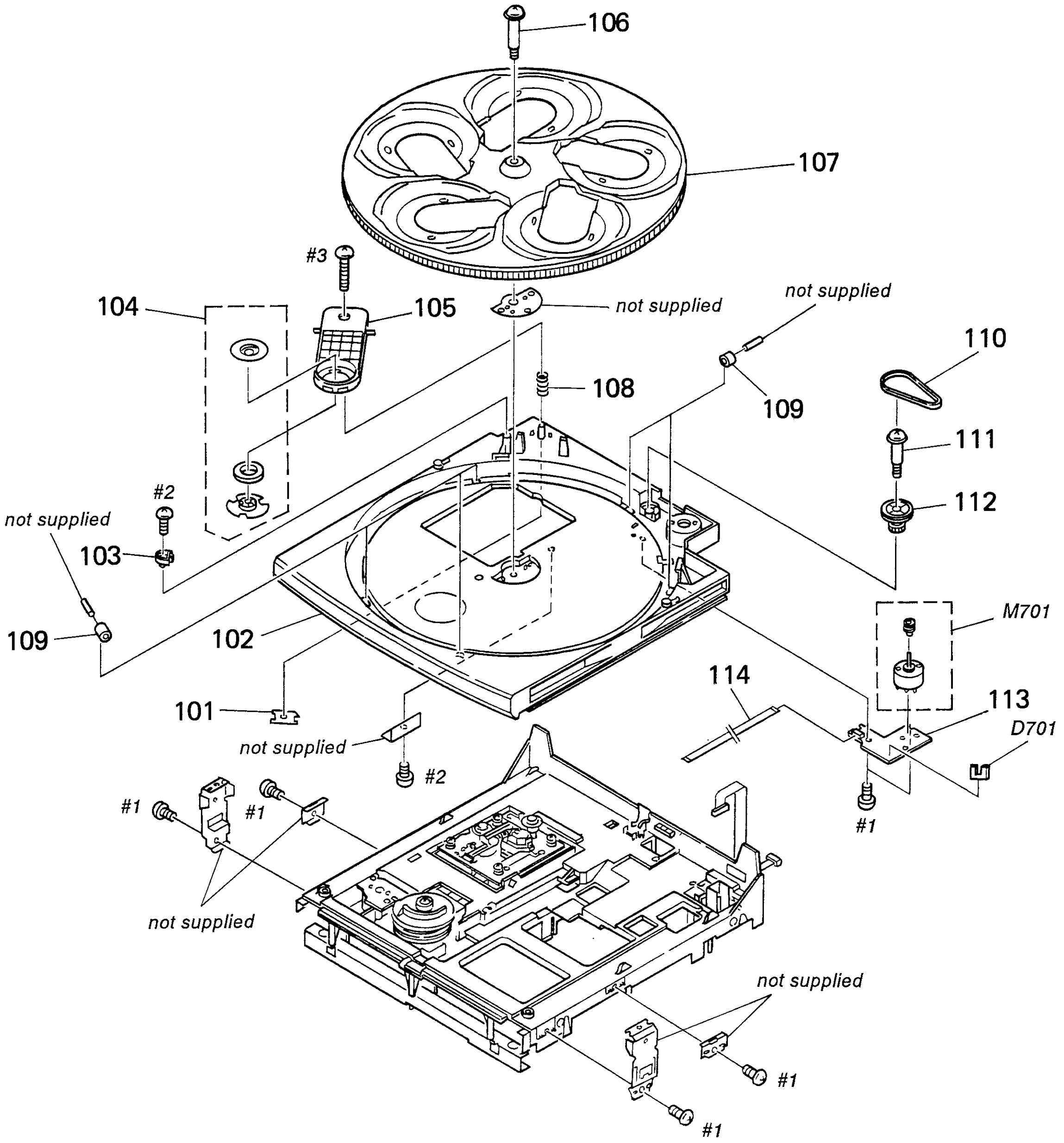
Q302
57
57
●A
IC302
52
51
70
57
not supplied

Ref. No.	Part No.	Description	Remark
51	X-4943-306-1	PANEL ASSY, FRONT (D259)	
51	X-4943-307-1	PANEL ASSY, FRONT (D359)	
52	X-4943-311-1	LID (B) ASSY, CASSETTE	
53	X-4943-310-1	LID (A) ASSY, CASSETTE	
54	4-948-273-01	KNOB, SLIDE	
55	1-751-209-11	WIRE, FLAT TYPE (9 CORE) (D259)	
* 56	A-4357-003-A	SW BOARD, COMPLETE (D259)	
* 56	A-4357-196-A	SW BOARD, COMPLETE (D359)	
57	4-951-620-01	SCREW (2.6X8), +BVTP	
58	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
59	3-308-823-11	SPRING	
60	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
61	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
62	3-354-957-01	JOINT (LOCK LEVER)	
* 63	3-354-953-01	LEVER (LOCK LEVER L)	
64	1-590-574-11	WIRE, FLAT TYPE (7 CORE)	
65	1-590-485-11	WIRE, FLAT TYPE (7 CORE)	
* 66	A-4356-892-A	TC MAIN BOARD, COMPLETE	
* 67	1-646-431-21	PANEL-U BOARD	
* 68	1-646-432-21	PANEL-B BOARD	
69	1-751-055-31	WIRE, FLAT TYPE (37 CORE) (D259)	
70	1-690-589-31	WIRE, FLAT TYPE (13 CORE) (D359)	
70	1-751-210-11	WIRE, FLAT TYPE (13 CORE) (D259)	
71	4-935-355-41	BUTTON (EJECT)	
* 72	4-955-821-11	LEVER (R), EJECT	
73	3-500-131-00	SPRING, COMPRESSION	
* 74	4-955-820-11	LEVER (L), EJECT	
75	3-354-963-01	DAMPER	
76	3-354-959-01	SPRING (LOADING L), TORSION	
77	3-354-960-01	SPRING (LOADING R), TORSION	
* 78	4-949-935-31	CUSHION (FL)	
* 79	4-955-792-11	HOLDER (5M), FL TUBE	
* 80	3-354-954-01	LEVER (LOCK LEVER R)	
81	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
82	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
83	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
FL701	1-519-721-31	INDICATOR TUBE, FLUORESCENT	
IC302	8-759-604-95	IC M5F79M07L	
Q302	8-729-209-15	TRANSISTOR 2SD2012	

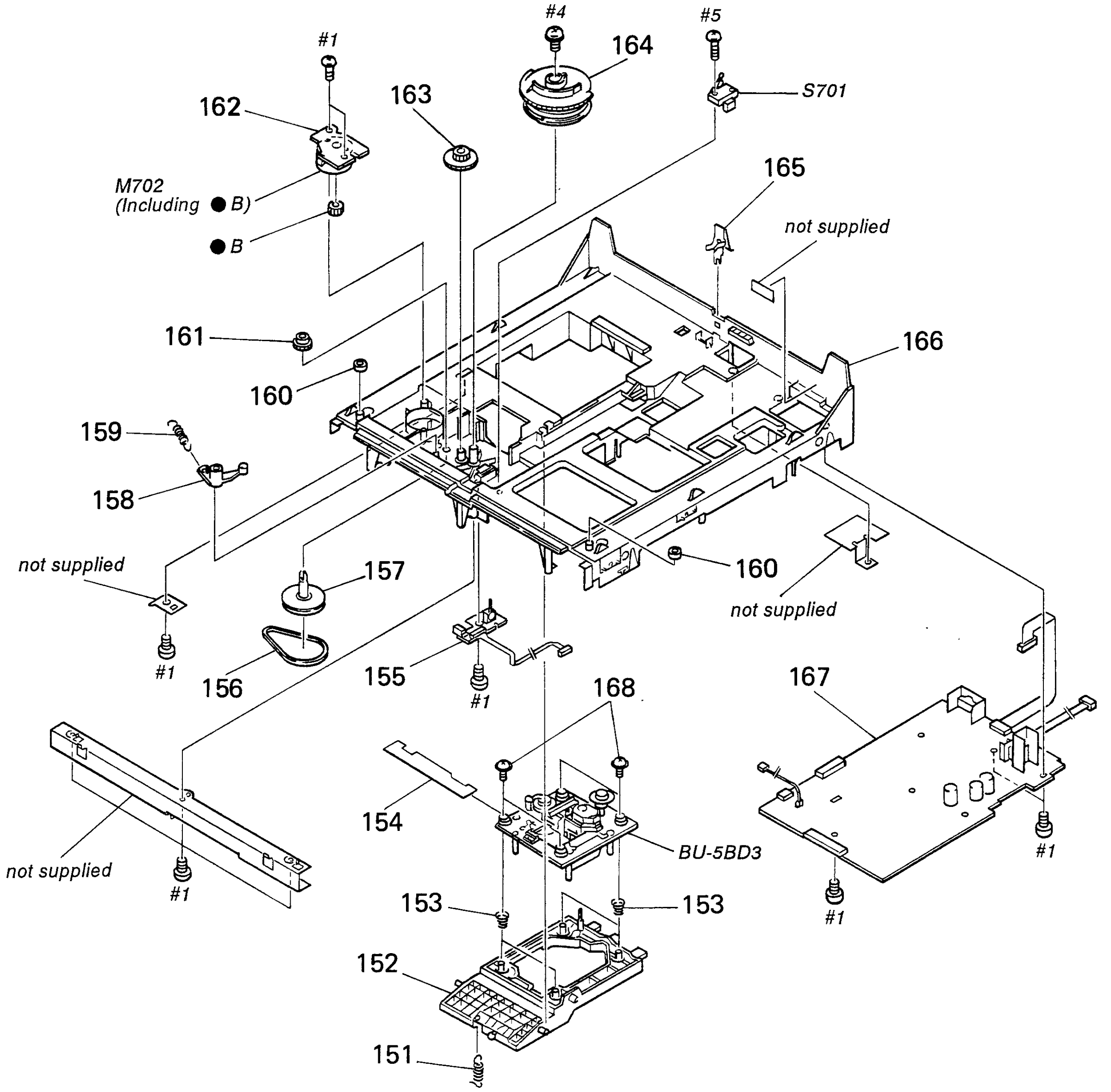
(3) TURNTABLE ASSEMBLY SECTION


106
107
#3
104
105
not supplied
not supplied
110
108
109
111
112
#2
not supplied
103
M701
109
102
114
113
101
D701
not supplied
#2
#1
#1
#1
not supplied
not supplied
#1
#1

Ref. No.	Part No.	Description	Remark
* 101	4-926-388-01	BRACKET (ADJUSTMENT)	
102	4-955-787-11	TABLE, DISK	
* 103	4-949-226-11	PLATE, LOCK	
* 104	1-452-538-11	MAGNET	
* 105	4-930-506-02	BRACKET (PRESS PULLEY)	
106	4-926-384-01	SCREW, STEP	
* 107	4-926-383-01	TABLE (B), DISK	
108	4-926-395-01	SPRING, COMPRESSION	

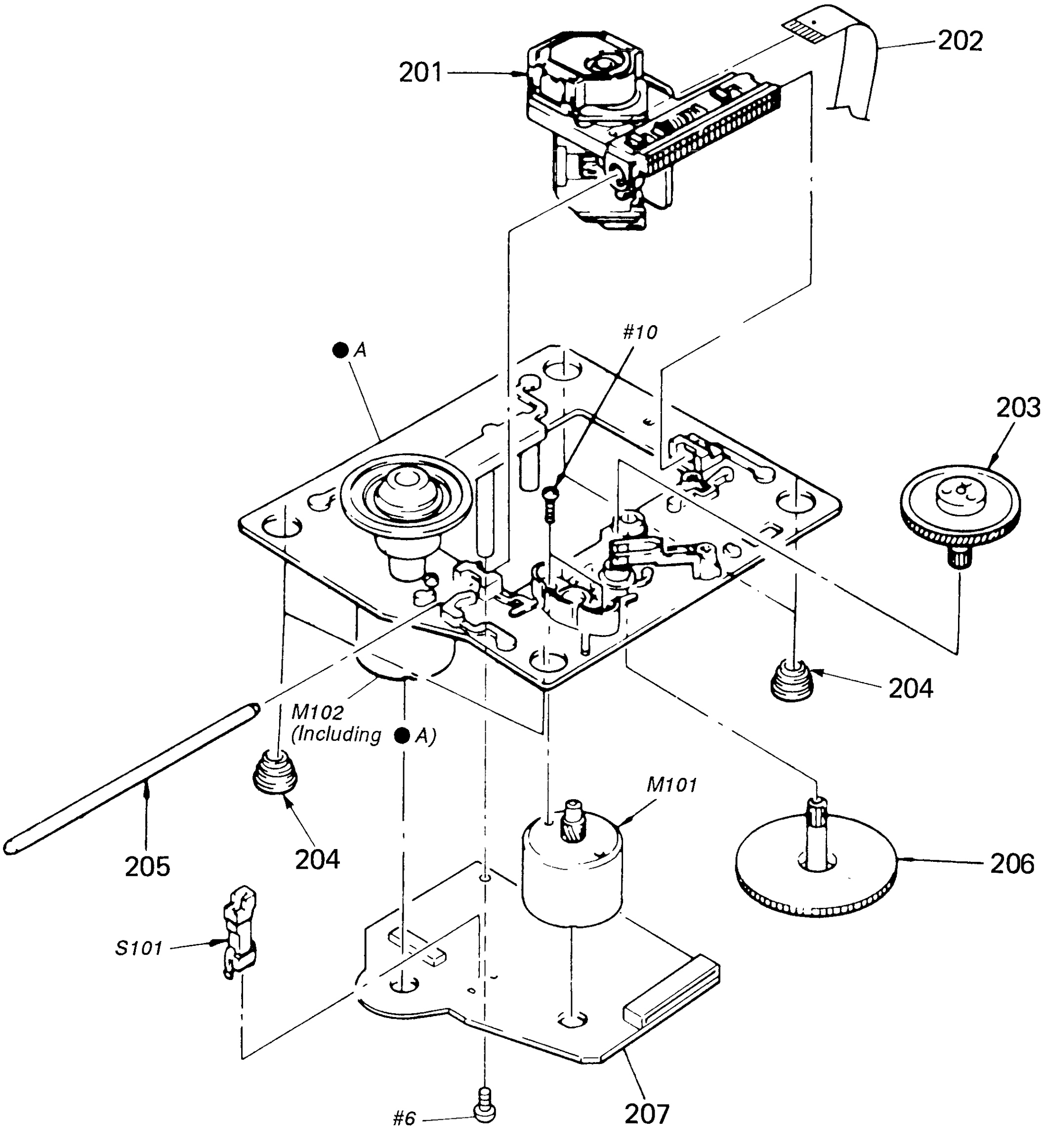
Ref. No.	Part No.	Description	Remark
109	X-4924-457-1	ROLLER ASSY	
110	4-926-399-01	BELT	
111	4-923-597-01	SCREW, STEP	
112	4-934-380-01	PULLEY (R)	
* 113	1-638-729-11	TABLE MOTOR BOARD	
114	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
D701	8-719-970-19	DIODE GP-1A521	
M701	A-4604-585-A	MOTOR ASSY, ROTARY	

(4) CHASSIS SECTION


#4
#5
#1
164
S701
162
163
165
M702
(Including ● B)
● B
not supplied
166
161
160
159
158
not supplied
157
160
not supplied
156
155
#1
168
167
154
BU-5BD3
not supplied
#1
#1
#1
153
153
152
151

Ref. No.	Part No.	Description	Remark
151	4-937-911-01	SPRING, TENSION	
* 152	4-934-373-01	BRACKET (BU)	
153	4-949-385-01	SPRING (D), COIL	
154	1-537-476-11	JUMPER, FILM (WITH TERMINAL)	
* 155	1-638-731-11	OPEN/UP SW BOARD	
156	4-944-490-01	BELT (TIMING)	
157	X-4941-529-1	PULLEY ASSY	
158	4-917-519-01	LEVER, SET	
159	4-924-412-01	SPRING (B), TENSION	
* 160	4-951-619-01	CUSHION (A)	
161	4-934-375-01	GEAR (LOADING B)	
* 162	1-638-730-11	LOADING MOTOR BOARD	
163	4-934-381-01	GEAR (LOADING C)	
164	4-934-391-01	GEAR (LOADING A)	
* 165	4-943-996-01	SPRING, LEAF	
* 166	4-943-997-01	CHASSIS	
* 167	A-4356-887-A	MAIN BOARD, COMPLETE (EXCEPT D259:Canadian)	
* 167	A-4360-507-A	MAIN BOARD, COMPLETE (D259:Canadian)	
168	4-933-134-01	SCREW (+PTPWH M2.6X6)	
S701	1-572-713-11	SWITCH, PUSH (WITH CONNECTOR)	
M702	A-4604-834-A	MOTOR ASSY, LOADING	

(5) OPTICAL PICK-UP BLOCK ASSEMBLY (BU-5BD3)

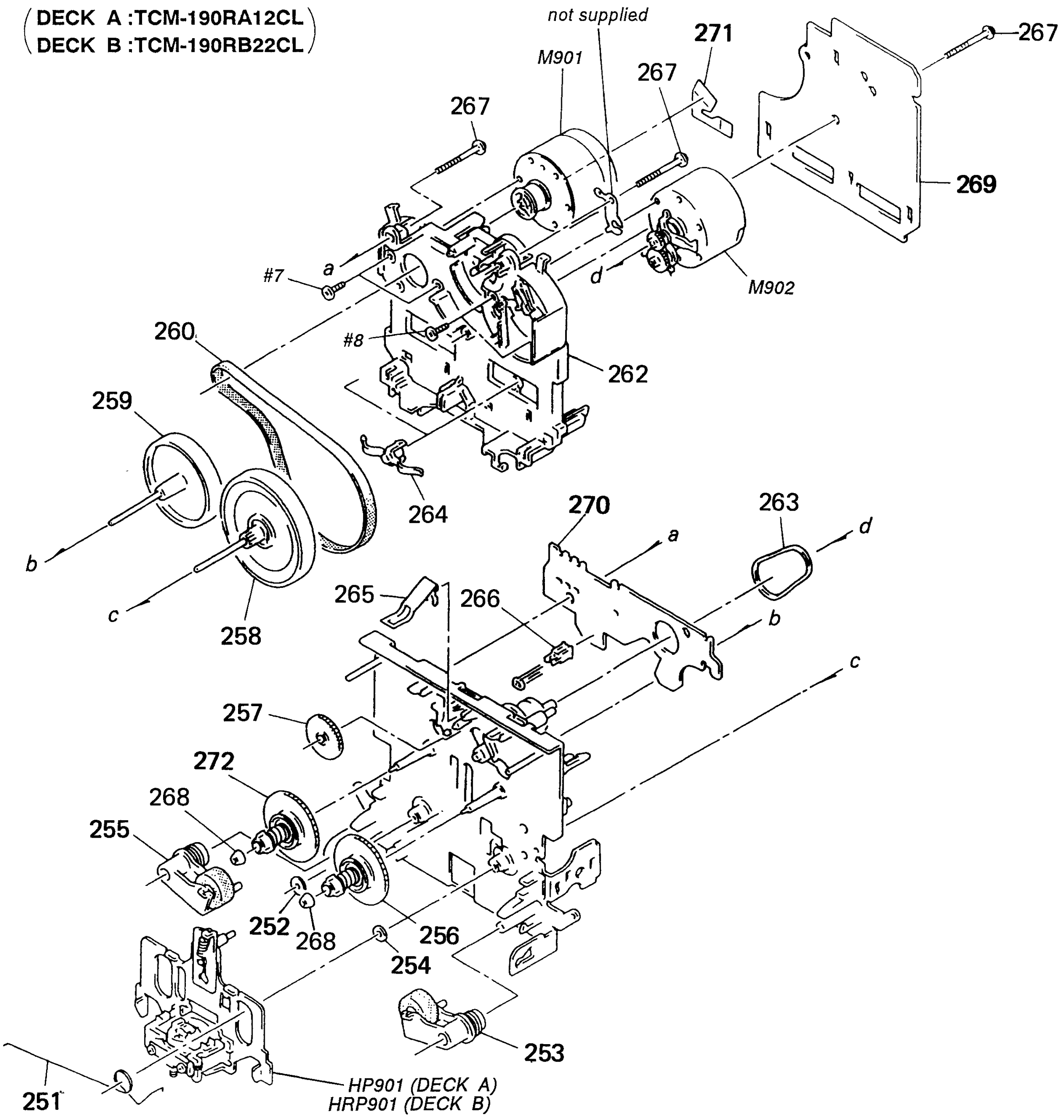


Ref. No.	Part No.	Description	Remark
⚠201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
203	4-917-567-01	GEAR (M)	
204	4-933-126-01	INSULATOR (A)	
205	4-917-565-01	SHAFT, SLED	
206	4-917-564-01	GEAR (P), FLATNESS	
* 207	A-4617-371-A	BD BOARD, COMPLETE	
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	BASE (OUTSERT) ASSY (SPINDLE MOTOR)	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

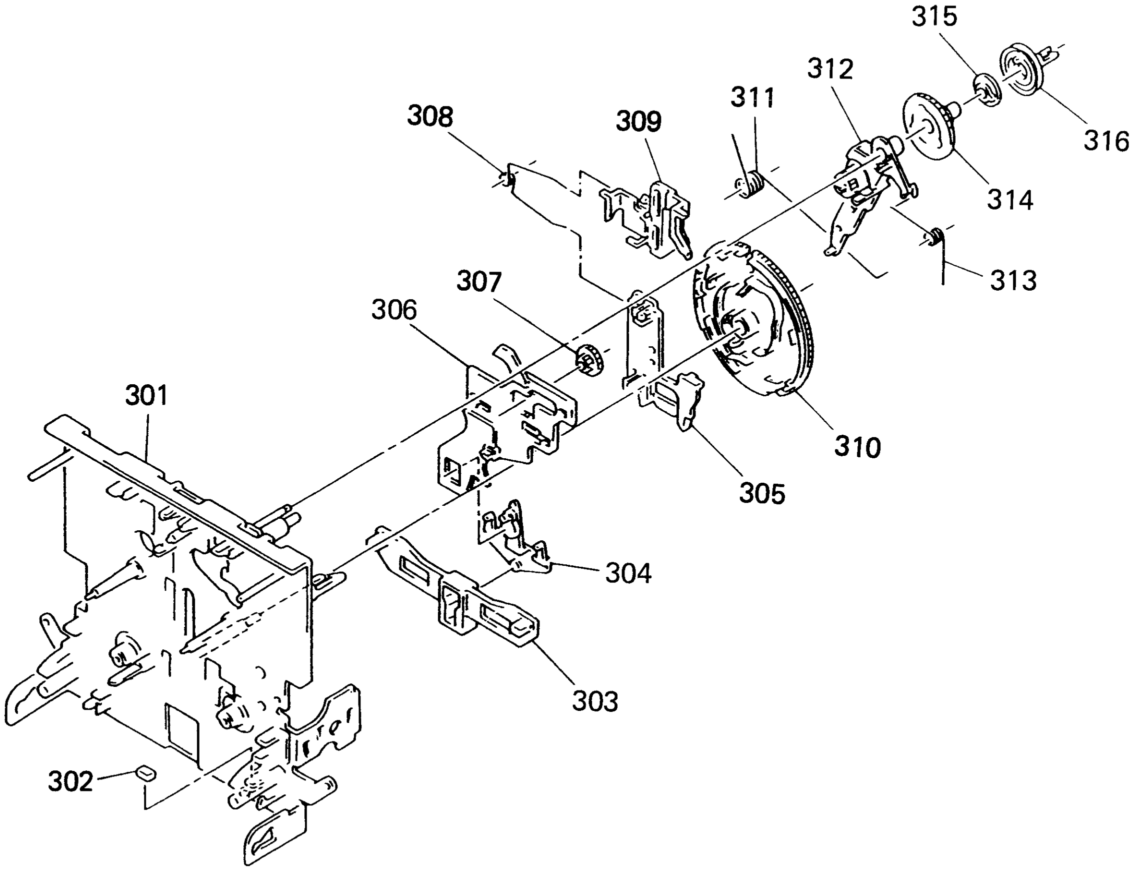
(6) MECHANISM SECTION-1

(DECK A :TCM-190RA12CL
DECK B :TCM-190RB22CL)


not supplied
M901
271
267
267
267
269
a
#7
d
M902
260
#8
262
259
264
270
263
a
d
b
258
c
265
266
b
c
257
272
268
255
252
268
256
254
253
251
HP901 (DECK A)
HRP901 (DECK B)

Ref. No.	Part No.	Description	Remark
251	3-359-455-01	SPRING, TORSION	
252	3-356-714-01	WASHER	
253	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
254	3-356-713-01	WASHER	
255	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
256	X-3359-404-1	TABLE ASSY, REEL	
257	3-359-424-01	GEAR (REV GEAR)	
258	X-3359-406-1	FLYWHEEL (FWD) ASSY	
259	X-3359-410-1	FLYWHEEL (REV) ASSY	
260	3-359-417-01	BELT (FLAT), CAPSTAN	
* 262	3-359-436-01	BASE (THRUST RETAINER), FITTING	
263	3-359-466-01	BELT (FR), SQUARE	
264	3-575-321-00	RETAINER, THRUST, CAPSTAN	
265	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF	
266	3-343-419-01	HOLDER (S SENSOR A)	
267	3-359-414-01	SCREW (+PTPWH 2X23)	
268	3-362-308-01	CAP (REEL)	
* 269	A-2006-609-A	AUDIO BOARD, COMPLETE (DECK A)	
* 269	A-2006-610-A	AUDIO BOARD, COMPLETE (DECK B)	
* 270	1-634-841-14	SW-A BOARD	
271	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
272	X-3362-078-1	TABLE ASSY (B), REEL	
HP901	A-2003-838-A	DECK ASSY, HEAD (DECK A)	
HRPE901	A-2004-190-A	DECK ASSY, HEAD (DECK B)	
M901	X-3359-417-1	MOTOR ASSY (CAPSTAN)	
M902	X-3363-501-1	MOTOR ASSY (REEL)	

(7) MECHANISM SECTION-2
(DECK A :TCM-190RA12CL
DECK B :TCM-190RB22CL)



Ref. No.	Part No.	Description	Remark
301	X-3359-415-1	CHASSIS ASSY, MECHANICAL	
302	3-359-469-01	SPACER	
* 303	3-359-425-01	SLIDER (REVERSE SLIDER)	
304	3-359-426-01	LEVER (REVERSE LEVER)	
* 305	3-359-427-01	SLIDER (LEVERSE SLIDER)	
* 306	3-359-415-01	SLIDER (TRIGGER SLIDER)	
307	3-359-448-01	GEAR (TRIGGER)	
308	3-359-454-01	SPRING, TORSION	
309	3-359-429-01	SLIDER (BRAKE PLATE)	
310	3-359-420-01	GEAR (CAM GEAR)	
311	3-359-456-01	SPRING(TRIGGER SPRING),TORSION	
312	X-3359-405-1	LEVER (FR ARM) ASSY	
313	3-359-453-01	SPRING (FR ARM), TORSION	
314	3-359-419-01	GEAR (FR GEAR)	
315	3-359-421-01	CLUTCH (REEL DISK)	
316	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA.
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Abbreviations
  AUS: Australian Model
  IT: Italian Model

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
*	A-2006-609-A	AUDIO-A BOARD, COMPLETE **********************	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C12	1-136-157-00	FILM 0.022uF 5% 50V	
C13	1-124-234-00	ELECT 22uF 20% 16V	
C18	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C21	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C22	1-136-157-00	FILM 0.022uF 5% 50V	
C23	1-124-234-00	ELECT 22uF 20% 16V	
C28	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C31	1-124-234-00	ELECT 22uF 20% 16V	
C32	1-124-234-00	ELECT 22uF 20% 16V	
C72	1-124-499-11	ELECT, NONPOLAR 1uF 20% 50V	
		< JACK >	
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P	
		< CONNECTOR >	
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< IC >	
IC31	8-759-106-02	IC uPC4570G2	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW51	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW52	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW53	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW54	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< TRANSISTOR >	
Q71	8-729-602-36	TRANSISTOR 2SA1602	
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R12	1-216-025-00	METAL CHIP 100 5% 1/10W	
R13	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R14	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R21	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R22	1-216-025-00	METAL CHIP 100 5% 1/10W	
R23	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R24	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R31	1-216-033-00	METAL CHIP 220 5% 1/10W	
R32	1-216-033-00	METAL CHIP 220 5% 1/10W	
R71	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R72	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R73	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R74	1-216-089-00	METAL CHIP 47K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV11	1-241-627-11	RES, ADJ, CARBON 1K	
RV21	1-241-627-11	RES, ADJ, CARBON 1K	
RV71	1-241-630-11	RES, ADJ, CARBON 10K	
RV72	1-241-630-11	RES, ADJ, CARBON 10K	
**********	**********	**********************************	**********
*	A-2006-610-A	AUDIO-B BOARD, COMPLETE **********************	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C12	1-136-157-00	FILM 0.022uF 5% 50V	
C13	1-124-234-00	ELECT 22uF 20% 16V	
C14	1-136-273-91	FILM 75PF 5% 630V	
C15	1-164-080-11	CERAMIC 390PF 10% 50V	
C17	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	

Ref. No.	Part No.	Description				Remark
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C22	1-136-157-00	FILM	0.022uF	5%	50V	
C23	1-124-234-00	ELECT	22uF	20%	16V	
C24	1-136-273-91	FILM	75PF	5%	630V	
C25	1-164-080-11	CERAMIC	390PF	10%	50V	
C27	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C31	1-124-234-00	ELECT	22uF	20%	16V	
C32	1-124-234-00	ELECT	22uF	20%	16V	
C33	1-124-234-00	ELECT	22uF	20%	16V	
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V	
C54	1-136-559-11	FILM	0.0047uF	5%	630V	
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C57	1-164-346-11	CERAMIC CHIP	1uF		16V	
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V	
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V	
		< JACK >				
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD				
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD				
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P				
		< CONNECTOR >				
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P				
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< DIODE >				
D31	8-719-404-46	DIODE MA110				
		< IC >				
IC31	8-759-106-02	IC uPC4570G2				
		< JUMPER RESISTOR >				
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW3	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW4	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW6	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW7	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW55	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW56	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW57	1-216-296-00	METAL CHIP	0	5%	1/8W	

Ref. No.	Part No.	Description				Remark
JW58	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW59	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW60	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW61	1-216-296-00	METAL CHIP	0	5%	1/8W	
		< COIL >				
L11	1-410-780-11	INDUCTOR 27mH				
L21	1-410-780-11	INDUCTOR 27mH				
		< TRANSISTOR >				
Q51	8-729-808-01	TRANSISTOR 2SD1622-S				
Q52	8-729-808-01	TRANSISTOR 2SD1622-S				
Q53	8-729-808-01	TRANSISTOR 2SD1622-S				
Q71	8-729-602-36	TRANSISTOR 2SA1602				
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-025-00	METAL CHIP	100	5%	1/10W	
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R15	1-249-430-11	CARBON	12K	5%	1/4W	
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-025-00	METAL CHIP	100	5%	1/10W	
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R25	1-249-430-11	CARBON	12K	5%	1/4W	
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
R41	1-249-393-11	CARBON	10	5%	1/4W	F
R42	1-249-393-11	CARBON	10	5%	1/4W	F
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-241-627-11	RES, ADJ, CARBON 1K				
RV12	1-238-551-11	RES, ADJ, CARBON 220K				
RV21	1-241-627-11	RES, ADJ, CARBON 1K				
RV22	1-238-551-11	RES, ADJ, CARBON 220K				
RV71	1-241-630-11	RES, ADJ, CARBON 10K				
RV72	1-241-630-11	RES, ADJ, CARBON 10K				

AUDIO-B BD

Ref. No.	Part No.	Description			Remark
		< RELAY >			
RY31	1-515-913-11	RELAY			
		< TRANSFORMER >			
T51	1-406-419-11	COIL, BIAS OSCILLATION			

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Ref. No.	Part No.	Description			Remark
*	A-4617-371-A	BD BOARD, COMPLETE ******************			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C103	1-126-163-11	ELECT	4.7uF	20%	50V
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C105	1-126-154-11	ELECT	47uF	20%	6.3V
C106	1-126-154-11	ELECT	47uF	20%	6.3V
C107	1-126-154-11	ELECT	47uF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-131-367-00	TANTALUM	22uF	10%	20V
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-058-77	IC CXA1372AQ			
IC102	8-759-822-36	IC LA6532M			

Ref. No.	Part No.	Description			Remark
		< JACK >			
J101	1-216-295-00	METAL CHIP	0	5%	1/10W
J102	1-216-295-00	METAL CHIP	0	5%	1/10W
		< MOTOR >			
M101	X-4917-504-1	MOTOR ASSY (SLED)			
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-095-00	METAL CHIP	82K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-600-11	RES, ADJ, CARBON 10K			
RV101	1-241-630-11	RES, ADJ, CARBON 10K			
RV102	1-238-600-11	RES, ADJ, CARBON 10K			
RV102	1-241-630-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			

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Ref. No.	Part No.	Description			Remark
*	1-638-730-11	LOADING MOTOR BOARD			
		******************			
		< CAPACITOR >			
C705	1-161-375-00	CERAMIC	0.0022uF	20%	50V
		< CONNECTOR >			
CN705	1-573-383-11	PIN, CONNECTOR (PC BOARD) 2P			
		< MOTOR >			
M702	A-4604-834-A	MOTOR ASSY, LOADING			
**					
*	A-4356-887-A	MAIN BOARD, COMPLETE (EXCEPT D259:Canadian)			
		**********************			
*	A-4360-507-A	MAIN BOARD, COMPLETE (D259:Canadian)			
		***********************************			
*	3-309-144-21	HEAT SINK			
*	4-880-403-11	HEAT SINK			
*	4-949-935-31	CUSHION (FL)			
*	4-955-792-11	HOLDER (5M), FL TUBE			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C501	1-124-477-11	ELECT	47uF	20%	25V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-164-159-11	CERAMIC	0.1uF		50V
C504	1-164-159-11	CERAMIC	0.1uF		50V
C511	1-136-161-00	FILM	0.047uF	5%	50V
C512	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C513	1-161-494-00	CERAMIC	0.022uF		25V
C514	1-162-306-11	CERAMIC	0.01uF	20%	16V
C515	1-124-902-00	ELECT	0.47uF	20%	50V
C516	1-161-494-00	CERAMIC	0.022uF		25V
C531	1-124-635-00	ELECT	220uF	20%	6.3V
C537	1-126-177-11	ELECT	100uF	20%	10V
C539	1-164-159-11	CERAMIC	0.1uF		50V
C542	1-124-635-00	ELECT	220uF	20%	6.3V
C543	1-164-159-11	CERAMIC	0.1uF		50V
C549	1-164-159-11	CERAMIC	0.1uF		50V
C550	1-124-635-00	ELECT	220uF	20%	6.3V
C551	1-164-159-11	CERAMIC	0.1uF		50V
C553	1-162-195-31	CERAMIC	4.7PF	10%	50V
C554	1-162-195-31	CERAMIC	4.7PF	10%	50V
C557	1-126-177-11	ELECT	100uF	20%	10V
C558	1-164-159-11	CERAMIC	0.1uF		50V
C601	1-124-472-11	ELECT	470uF	20%	10V
C602	1-164-159-11	CERAMIC	0.1uF		50V
C603	1-124-478-11	ELECT	100uF	20%	25V
C604	1-124-478-11	ELECT	100uF	20%	25V
C608	1-164-159-11	CERAMIC	0.1uF		50V
C609	1-164-159-11	CERAMIC	0.1uF		50V
C614	1-164-159-11	CERAMIC	0.1uF		50V
C622	1-161-494-00	CERAMIC	0.022uF		25V
C626	1-162-294-31	CERAMIC	0.001uF	10%	50V
C627	1-162-294-31	CERAMIC	0.001uF	10%	50V
C628	1-162-294-31	CERAMIC	0.001uF	10%	50V
C630	1-162-294-31	CERAMIC	0.001uF	10%	50V
C631	1-162-294-31	CERAMIC	0.001uF	10%	50V
C632	1-162-294-31	CERAMIC	0.001uF	10%	50V
C661	1-162-283-31	CERAMIC	120PF	10%	50V
C663	1-162-282-31	CERAMIC	100PF	10%	50V
C664	1-162-282-31	CERAMIC	100PF	10%	50V
C665	1-162-282-31	CERAMIC	100PF	10%	50V
C666	1-162-282-31	CERAMIC	100PF	10%	50V
C667	1-162-283-31	CERAMIC	120PF	10%	50V
C668	1-124-907-11	ELECT	10uF	20%	50V
C669	1-124-907-11	ELECT	10uF	20%	50V
C671	1-130-480-00	MYLAR	0.0056uF	5%	50V
C672	1-130-480-00	MYLAR	0.0056uF	5%	50V
C673	1-130-471-00	MYLAR	0.001uF	5%	50V
C674	1-130-471-00	MYLAR	0.001uF	5%	50V
C675	1-126-176-11	ELECT	220uF	20%	10V
C676	1-126-176-11	ELECT	220uF	20%	10V
C677	1-124-477-11	ELECT	47uF	20%	25V
C678	1-124-477-11	ELECT	47uF	20%	25V
C679	1-164-159-11	CERAMIC	0.1uF		50V
C680	1-164-159-11	CERAMIC	0.1uF		50V
C681	1-164-159-11	CERAMIC	0.1uF		50V
C688	1-161-494-00	CERAMIC	0.022uF		25V
C690	1-161-494-00	CERAMIC	0.022uF		25V
C800	1-124-563-11	ELECT	2200uF	20%	25V
C801	1-126-176-11	ELECT	220uF	20%	10V
C802	1-124-572-11	ELECT	100uF	20%	63V
C803	1-124-907-11	ELECT	10uF	20%	50V
C804	1-128-548-81	ELECT	4700uF	20%	25V
C805	1-128-548-81	ELECT	4700uF	20%	25V
C806	1-164-159-11	CERAMIC	0.1uF		50V
C807	1-124-907-11	ELECT	10uF	20%	50V
C808	1-124-472-11	ELECT	470uF	20%	10V
C809	1-124-472-11	ELECT	470uF	20%	10V
C811	1-124-443-00	ELECT	100uF	20%	10V
C813	1-164-159-11	CERAMIC	0.1uF		50V
C815	1-124-927-11	ELECT	4.7uF	20%	100V
C816	1-124-907-11	ELECT	10uF	20%	50V
C817	1-124-443-00	ELECT	100uF	20%	10V
C822	1-164-159-11	CERAMIC	0.1uF		50V

MAIN

Ref. No.	Part No.	Description	Remark
C823	1-164-159-11	CERAMIC 0.1uF	50V
C833	1-124-916-11	ELECT 22uF 20%	63V
C888	1-124-907-11	ELECT 10uF 20%	50V
C901	1-162-286-31	CERAMIC 220PF 10%	50V
C902	1-162-286-31	CERAMIC 220PF 10%	50V
C903	1-130-467-00	MYLAR 470PF 5%	50V
C904	1-130-467-00	MYLAR 470PF 5%	50V
C911	1-162-294-31	CERAMIC 0.001uF 10%	50V
C912	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN601	1-691-902-21	CONNECTOR, FFC/FPC 37P	
* CN603	1-568-824-11	SOCKET, CONNECTOR 5P	
* CN604	1-568-943-11	PIN, CONNECTOR 5P	
CN605	1-691-895-21	CONNECTOR, FFC/FPC 18P	
* CN652	1-564-524-11	PLUG, CONNECTOR 9P	
* CN653	1-564-523-11	PLUG, CONNECTOR 8P	
* CN655	1-565-291-11	SOCKET, CONNECTOR 13P	
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D802	8-719-933-50	DIODE HZS7C2L	
D808	8-719-000-75	DIODE UZL-7L1	
D810	8-719-010-12	DIODE UZ-2.7BS	
D811	8-719-000-75	DIODE UZL-7L1	
D841	8-719-500-36	DIODE D2SB20	
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR OUH	
FB602	1-412-473-21	INDUCTOR OUH	
FB603	1-412-473-21	INDUCTOR OUH	
FB604	1-412-473-21	INDUCTOR OUH	
FB605	1-412-473-21	INDUCTOR OUH	
FB606	1-412-473-21	INDUCTOR OUH	
FB607	1-412-473-21	INDUCTOR OUH	
FB901	1-412-473-21	INDUCTOR OUH	
		< IC >	
IC501	8-752-838-85	IC CXP50120-024Q	
IC502	8-752-352-93	IC CXD2500BQ	
IC503	8-759-821-32	IC CXA1291P	
IC504	8-752-355-45	IC CXD2565M	
IC505	8-759-634-51	IC M5218AP	
IC506	8-759-634-51	IC M5218AP	
IC507	8-759-000-49	IC MC14066BCP	
IC801	8-759-071-48	IC TA7807S	
IC802	8-759-633-42	IC M5293L	
IC803	8-759-630-21	IC M5290P-16	

Ref. No.	Part No.	Description	Remark
		< COIL >	
L501	1-408-417-00	INDUCTOR 47uH	
		< IC LINK >	
⚠PS601	1-532-637-00	LINK, IC 1.0A (D259:AEP, UK, E, IT, AUS, D359)	
⚠PS602	1-532-685-00	LINK, IC (D259:AEP, UK, E, IT, AUS, D359)	
		< TRANSISTOR >	
Q541	8-729-900-61	TRANSISTOR DTA114ES	
Q542	8-729-900-61	TRANSISTOR DTA114ES	
Q543	8-729-900-61	TRANSISTOR DTA114ES	
Q601	8-729-900-89	TRANSISTOR DTC144ES	
Q673	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q674	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q675	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q676	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q677	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q678	8-729-900-89	TRANSISTOR DTC144ES	
Q679	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q802	8-729-140-96	TRANSISTOR 2SD774-34	
Q803	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q809	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		< RESISTOR >	
R501	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R502	1-249-417-11	CARBON 1K 5% 1/4W	F
R503	1-249-417-11	CARBON 1K 5% 1/4W	F
R504	1-249-417-11	CARBON 1K 5% 1/4W	F
R511	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R512	1-249-429-11	CARBON 10K 5% 1/4W	
R513	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R514	1-249-429-11	CARBON 10K 5% 1/4W	
R515	1-249-417-11	CARBON 1K 5% 1/4W	F
R516	1-249-417-11	CARBON 1K 5% 1/4W	F
R517	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R518	1-249-441-11	CARBON 100K 5% 1/4W	
R531	1-249-417-11	CARBON 1K 5% 1/4W	F
R539	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R541	1-249-405-11	CARBON 100 5% 1/4W	F
R543	1-249-441-11	CARBON 100K 5% 1/4W	
R544	1-249-441-11	CARBON 100K 5% 1/4W	
R547	1-249-441-11	CARBON 100K 5% 1/4W	
R601	1-249-433-11	CARBON 22K 5% 1/4W	
R602	1-249-433-11	CARBON 22K 5% 1/4W	
R603	1-249-433-11	CARBON 22K 5% 1/4W	
R604	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R605	1-249-425-11	CARBON 4.7K 5% 1/4W	F

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
R606	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R608	1-249-441-11	CARBON 100K 5% 1/4W	
R609	1-249-440-11	CARBON 82K 5% 1/4W	
R610	1-247-874-11	CARBON 62K 5% 1/4W	
R611	1-249-435-11	CARBON 33K 5% 1/4W	
R612	1-247-878-00	CARBON 91K 5% 1/4W	
R613	1-247-864-11	CARBON 24K 5% 1/4W	
R614	1-247-880-11	CARBON 110K 5% 1/4W	
R615	1-249-440-11	CARBON 82K 5% 1/4W	
R616	1-247-876-11	CARBON 75K 5% 1/4W	
R621	1-249-393-11	CARBON 10 5% 1/4W	F
R622	1-249-393-11	CARBON 10 5% 1/4W	F
R625	1-249-429-11	CARBON 10K 5% 1/4W	
R626	1-249-429-11	CARBON 10K 5% 1/4W	
R627	1-249-429-11	CARBON 10K 5% 1/4W	
R628	1-249-429-11	CARBON 10K 5% 1/4W	
R629	1-249-429-11	CARBON 10K 5% 1/4W	
R630	1-249-429-11	CARBON 10K 5% 1/4W	
R631	1-249-429-11	CARBON 10K 5% 1/4W	
R632	1-249-429-11	CARBON 10K 5% 1/4W	
R645	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R646	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R652	1-249-433-11	CARBON 22K 5% 1/4W	
R653	1-249-433-11	CARBON 22K 5% 1/4W	
R655	1-249-433-11	CARBON 22K 5% 1/4W	
R656	1-249-433-11	CARBON 22K 5% 1/4W	
R661	1-247-862-11	CARBON 20K 5% 1/4W	
R662	1-247-862-11	CARBON 20K 5% 1/4W	
R663	1-247-862-11	CARBON 20K 5% 1/4W	
R664	1-247-862-11	CARBON 20K 5% 1/4W	
R665	1-249-433-11	CARBON 22K 5% 1/4W	
R666	1-249-433-11	CARBON 22K 5% 1/4W	
R667	1-249-433-11	CARBON 22K 5% 1/4W	
R668	1-249-433-11	CARBON 22K 5% 1/4W	
R669	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R670	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R671	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R672	1-249-419-11	CARBON 1.5K 5% 1/4W	F
R675	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R676	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R677	1-249-441-11	CARBON 100K 5% 1/4W	
R678	1-249-441-11	CARBON 100K 5% 1/4W	
R681	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R682	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R683	1-249-409-11	CARBON 220 5% 1/4W	F
R684	1-249-409-11	CARBON 220 5% 1/4W	F
R690	1-249-429-11	CARBON 10K 5% 1/4W	
R691	1-249-417-11	CARBON 1K 5% 1/4W	F
R692	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R693	1-249-433-11	CARBON 22K 5% 1/4W	
R694	1-249-393-11	CARBON 10 5% 1/4W	F
R695	1-249-433-11	CARBON 22K 5% 1/4W	
R696	1-249-433-11	CARBON 22K 5% 1/4W	
R697	1-249-433-11	CARBON 22K 5% 1/4W	
R801	1-249-435-11	CARBON 33K 5% 1/4W	
R813	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R814	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R815	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R819	1-249-410-11	CARBON 270 5% 1/4W	F
R820	1-249-438-11	CARBON 56K 5% 1/4W	
R821	1-249-429-11	CARBON 10K 5% 1/4W	
R826	1-249-417-11	CARBON 1K 5% 1/4W	F
R827	1-249-410-11	CARBON 270 5% 1/4W	F
R852	1-249-429-11	CARBON 10K 5% 1/4W	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X501	1-579-833-21	VIBRATOR, CRYSTAL 33MHz	

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* 1-638-731-11 OPEN/UP SW BOARD

****

< SWITCH >

Ref. No.	Part No.	Description	Remark
S702	1-571-300-21	SWITCH, ROTARY (UP/OPEN)	

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* 1-646-432-21 PANEL-B BOARD

****

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN750	1-691-902-21	CONNECTOR, FFC/FPC 37P	

< FILTER >

Ref. No.	Part No.	Description	Remark
FL701	1-519-721-31	INDICATOR TUBE, FLUORESCENT	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R751	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R752	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R753	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R754	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R763	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R764	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R765	1-249-427-11	CARBON 6.8K 5% 1/4W	F

< SWITCH >

Ref. No.	Part No.	Description	Remark
S750	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)	
S751	1-554-303-21	SWITCH, TACTILE (CHECK)	
S752	1-554-303-21	SWITCH, TACTILE (CLEAR)	

PANEL-B PANEL-U SW TC PANEL (A) TC PANEL (B)

Ref. No.	Part No.	Description	Remark
S753	1-554-303-21	SWITCH, TACTILE (FADER)	
S754	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
S755	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S765	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S766	1-554-303-21	SWITCH, TACTILE (SHUTTLE)	
S767	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S780	1-554-303-21	SWITCH, TACTILE (TIME)	
**			
*	1-646-431-21	PANEL-U BOARD *************	
		< CONNECTOR >	
CN752	1-506-469-11	PIN, CONNECTOR 4P	
		< RESISTOR >	
R755	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R756	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R757	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R758	1-249-432-11	CARBON 18K 5% 1/4W	
R759	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R760	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R761	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R762	1-249-432-11	CARBON 18K 5% 1/4W	
R766	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R767	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R768	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R769	1-249-432-11	CARBON 18K 5% 1/4W	
		< SWITCH >	
S756	1-554-303-21	SWITCH, TACTILE (⏮)	
S757	1-554-303-21	SWITCH, TACTILE (⏭)	
S758	1-554-303-21	SWITCH, TACTILE (◀◀)	
S759	1-554-303-21	SWITCH, TACTILE (▶▶)	
S760	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE)	
S761	1-554-303-21	SWITCH, TACTILE (▷)	
S762	1-554-303-21	SWITCH, TACTILE (❚❚)	
S763	1-554-303-21	SWITCH, TACTILE (■)	
S764	1-554-303-21	SWITCH, TACTILE (DISK SKIP)	
S768	1-554-303-21	SWITCH, TACTILE (DISK 5)	
S769	1-554-303-21	SWITCH, TACTILE (DISK 4)	
S770	1-554-303-21	SWITCH, TACTILE (DISK 3)	
S771	1-554-303-21	SWITCH, TACTILE (DISK 2)	
S772	1-554-303-21	SWITCH, TACTILE (DISK 1)	
**			

Ref. No.	Part No.	Description	Remark
*	A-4357-003-A	SW BOARD, COMPLETE (D259) *************************	
*	A-4357-196-A	SW BOARD, COMPLETE (D359) *************************	
	1-646-887-21	TC PANEL (A) BOARD ******************	
		< DIODE >	
D481	8-719-301-42	DIODE SEL2410E	
D482	8-719-301-49	LED SEL2810A	
D483	8-719-301-49	LED SEL2810A	
		< SWITCH >	
S401	1-554-303-21	SWITCH, TACTILE (■)	
S402	1-554-303-21	SWITCH, TACTILE (PLAY:▷)	
S403	1-554-303-21	SWITCH, TACTILE (PLAY:◁)	
S404	1-554-303-21	SWITCH, TACTILE (AMS:▶▶)	
S405	1-554-303-21	SWITCH, TACTILE (AMS:◀◀)	
S406	1-572-269-11	SWITCH, SLIDE (DOLBY NR)	
S407	1-572-268-11	SWITCH, SLIDE (DIRECTION MODE)	
	1-646-888-21	TC PANEL (B) BOARD ******************	
		< CONNECTOR >	
CN451	1-568-442-11	SOCKET, CONNECTOR 9P	
CN452	1-568-443-11	SOCKET, CONNECTOR 13P	
		< DIODE >	
D491	8-719-301-37	LED SEL2210S-CD	
D492	8-719-301-49	LED SEL2810A	
D493	8-719-301-42	DIODE SEL2410E	
D494	8-719-301-49	LED SEL2810A	
D495	8-719-301-49	LED SEL2810A	
D496	8-719-301-37	LED SEL2210S-CD (D359)	
D497	8-719-301-37	LED SEL2210S-CD	
D498	8-719-301-37	LED SEL2210S-CD	
		< RESISTOR >	
R481	1-249-407-11	CARBON 150 5% 1/4W	F
R482	1-249-409-11	CARBON 220 5% 1/4W	F
R483	1-249-415-11	CARBON 680 5% 1/4W	F
R484	1-249-417-11	CARBON 1K 5% 1/4W	F
R485	1-249-426-11	CARBON 5.6K 5% 1/4W	
R486	1-249-430-11	CARBON 12K 5% 1/4W	
R490	1-249-407-11	CARBON 150 5% 1/4W	F
R491	1-249-409-11	CARBON 220 5% 1/4W	F
R492	1-249-411-11	CARBON 330 5% 1/4W	
R493	1-249-413-11	CARBON 470 5% 1/4W	F

Ref. No.	Part No.	Description	Remark
R494	1-249-411-11	CARBON 330 5% 1/4W	
R495	1-249-413-11	CARBON 470 5% 1/4W	F
R496	1-249-415-11	CARBON 680 5% 1/4W	F
R497	1-249-417-11	CARBON 1K 5% 1/4W	F
R498	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R499	1-249-424-11	CARBON 3.9K 5% 1/4W	F
		< SWITCH >	
S451	1-554-303-21	SWITCH, TACTILE (■)	
S452	1-554-303-21	SWITCH, TACTILE (❚❚ PAUSE)	
S453	1-554-303-21	SWITCH, TACTILE (PLAY:◁)	
S454	1-554-303-21	SWITCH, TACTILE (PLAY:▷)	
S455	1-554-303-21	SWITCH, TACTILE (○ REC MUTE)	
S456	1-554-303-21	SWITCH, TACTILE (AMS:▶▶)	
S457	1-554-303-21	SWITCH, TACTILE (AMS:◀◀)	
S458	1-554-303-21	SWITCH, TACTILE (●:REC)	
S459	1-554-303-21	SWITCH, TACTILE (DUBBING SPEED:HIGH)	
S460	1-554-303-21	SWITCH, TACTILE (DUBBING SPEED:NORMAL)	
S461	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO) (D359)	

****

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	LEAF SW-A BOARD (DECK A) ************************	
	3-343-419-01	HOLDER (S SENSOR A)	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W	F
R85	1-249-408-11	CARBON 180 5% 1/4W	F
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY)	
S82	1-571-281-21	SWITCH, LEAF	
S86	1-571-281-21	SWITCH, LEAF	

****

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	LEAF SW-B BOARD (DECK B) ************************	
	3-343-419-01	HOLDER (S SENSOR A)	
		< CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W	F
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W	F
R85	1-249-408-11	CARBON 180 5% 1/4W	F
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY)	
S82	1-571-281-21	SWITCH, LEAF	
S84	1-571-281-21	SWITCH, LEAF	
S85	1-571-281-21	SWITCH, LEAF	
S86	1-571-281-21	SWITCH, LEAF	

****

Ref. No.	Part No.	Description	Remark
*	1-638-729-11	TABLE MOTOR BOARD *****************	
		< CAPACITOR >	
C704	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
		< CONNECTOR >	
* CN707	1-573-044-11	SOCKET, CONNECTOR 5P	
		< DIODE >	
D701	8-719-970-19	DIODE GP-1A521	
		< MOTOR >	
M701	A-4604-585-A	MOTOR ASSY, ROTARY	
		< RESISTOR >	
R701	1-249-416-11	CARBON 820 5% 1/4W	F

****

Ref. No.	Part No.	Description	Remark
*	A-4356-892-A	TC MAIN BOARD, COMPLETE **********************	
*	4-870-539-00	PLATE, GROUND	
	8-729-900-65	TRANSISTOR DTA144ES	
	8-729-900-61	TRANSISTOR DTA114ES	
		< CAPACITOR >	
C122	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C123	1-162-291-31	CERAMIC 560PF 10% 50V	
C126	1-136-165-00	FILM 0.1uF 5% 50V	
C127	1-126-791-11	ELECT 10uF 20% 35V	

TC MAIN

Ref. No.	Part No.	Description			Remark
C128	1-126-301-11	ELECT	1uF	20%	50V
C129	1-124-465-00	ELECT	0.47uF	20%	50V
C130	1-126-791-11	ELECT	10uF	20%	35V
C131	1-164-159-11	CERAMIC	0.1uF		50V
C132	1-126-791-11	ELECT	10uF	20%	35V
C141	1-126-301-11	ELECT	1uF	20%	50V
C142	1-126-791-11	ELECT	10uF	20%	35V
C143	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C222	1-130-479-00	MYLAR	0.0047uF	5%	50V
C223	1-162-291-31	CERAMIC	560PF	10%	50V
C226	1-136-165-00	FILM	0.1uF	5%	50V
C227	1-126-791-11	ELECT	10uF	20%	35V
C228	1-126-301-11	ELECT	1uF	20%	50V
C229	1-124-465-00	ELECT	0.47uF	20%	50V
C230	1-126-791-11	ELECT	10uF	20%	35V
C231	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C232	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C233	1-124-465-00	ELECT	0.47uF	20%	50V
C241	1-126-301-11	ELECT	1uF	20%	50V
C242	1-126-791-11	ELECT	10uF	20%	35V
C243	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C301	1-126-791-11	ELECT	10uF	20%	35V
C302	1-126-926-11	ELECT	1000uF	20%	10V
C303	1-123-382-00	ELECT	3.3uF	20%	100V
C304	1-164-159-11	CERAMIC	0.1uF		50V
C305	1-164-159-11	CERAMIC	0.1uF		50V
C306	1-126-933-11	ELECT	100uF	20%	16V
C307	1-126-933-11	ELECT	100uF	20%	16V
C308	1-126-926-11	ELECT	1000uF	20%	10V
C309	1-126-926-11	ELECT	1000uF	20%	10V
C310	1-126-791-11	ELECT	10uF	20%	35V
C311	1-126-791-11	ELECT	10uF	20%	35V
C312	1-126-949-11	ELECT	220uF	20%	35V
C314	1-124-584-00	ELECT	100uF	20%	10V
C315	1-126-926-11	ELECT	1000uF	20%	10V
C316	1-126-933-11	ELECT	100uF	20%	16V
C317	1-126-933-11	ELECT	100uF	20%	16V
C318	1-126-933-11	ELECT	100uF	20%	16V
C456	1-162-290-31	CERAMIC	470PF	10%	50V
C457	1-162-290-31	CERAMIC	470PF	10%	50V
C458	1-164-159-11	CERAMIC	0.1uF		50V
C459	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN101	1-564-523-11	PLUG, CONNECTOR 8P	
* CN301	1-564-519-11	PLUG, CONNECTOR 4P	
* CN302	1-564-506-11	PLUG, CONNECTOR 3P	
* CN303	1-564-506-11	PLUG, CONNECTOR 3P	
* CN401	1-564-517-11	PLUG, CONNECTOR 2P	
CN402	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN403	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN404	1-580-783-11	CONNECTOR, BOARD TO BOARD	
CN405	1-568-437-11	SOCKET, CONNECTOR 7P	
CN406	1-568-437-11	SOCKET, CONNECTOR 7P	
CN407	1-568-441-11	SOCKET, CONNECTOR 9P	
CN408	1-568-444-11	SOCKET, CONNECTOR 13P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D301	8-719-000-78	DIODE UZL-7L2	
D302	8-719-987-63	DIODE 1N4148M	
D303	8-719-987-63	DIODE 1N4148M	
D304	8-719-987-63	DIODE 1N4148M	
D305	8-719-200-82	DIODE 11ES2	
D306	8-719-200-82	DIODE 11ES2	
D401	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	
D403	8-719-987-63	DIODE 1N4148M	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-759-098-75	IC HA12171NT	
IC301	8-759-071-48	IC TA7807S	
IC401	8-759-076-36	IC M50964-256FP	
IC402	8-759-635-63	IC M51943BSL	
IC403	8-759-207-05	IC TA7272P	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q301	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q400	8-729-900-61	TRANSISTOR DTA114ES	
Q401	8-729-900-61	TRANSISTOR DTA114ES	
Q402	8-729-900-61	TRANSISTOR DTA114ES	
Q403	8-729-900-61	TRANSISTOR DTA114ES	
Q404	8-729-900-61	TRANSISTOR DTA114ES	
Q405	8-729-900-61	TRANSISTOR DTA114ES	
Q406	8-729-900-89	TRANSISTOR DTC144ES	
Q407	8-729-900-89	TRANSISTOR DTC144ES	
Q408	8-729-900-61	TRANSISTOR DTA114ES	
Q409	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q410	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q411	8-729-801-84	TRANSISTOR 2SB1013-4	
Q412	8-729-801-84	TRANSISTOR 2SB1013-4	
Q413	8-729-900-61	TRANSISTOR DTA114ES	
Q414	8-729-900-89	TRANSISTOR DTC144ES	

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R120	1-215-451-00	METAL	18K	1%	1/6W
R121	1-249-430-11	CARBON	12K	5%	1/4W

Ref. No.	Part No.	Description				Remark
R122	1-249-431-11	CARBON	15K	5%	1/4W	
R123	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R124	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R125	1-249-429-11	CARBON	10K	5%	1/4W	
R127	1-249-429-11	CARBON	10K	5%	1/4W	
R130	1-249-429-11	CARBON	10K	5%	1/4W	
R131	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R132	1-249-429-11	CARBON	10K	5%	1/4W	
R133	1-249-429-11	CARBON	10K	5%	1/4W	
R135	1-247-864-11	CARBON	24K	5%	1/4W	
R136	1-249-429-11	CARBON	10K	5%	1/4W	
R137	1-249-429-11	CARBON	10K	5%	1/4W	
R138	1-249-429-11	CARBON	10K	5%	1/4W	
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R142	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R143	1-247-840-00	CARBON	2.4K	5%	1/4W	
R144	1-249-433-11	CARBON	22K	5%	1/4W	
R145	1-249-417-11	CARBON	1K	5%	1/4W	F
R221	1-249-430-11	CARBON	12K	5%	1/4W	
R222	1-249-431-11	CARBON	15K	5%	1/4W	
R223	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R224	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R225	1-247-882-11	CARBON	130K	5%	1/4W	
R226	1-247-866-11	CARBON	30K	5%	1/4W	
R229	1-249-429-11	CARBON	10K	5%	1/4W	
R230	1-249-432-11	CARBON	18K	5%	1/4W	
R231	1-247-885-00	CARBON	180K	5%	1/4W	
R241	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R242	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R243	1-247-840-00	CARBON	2.4K	5%	1/4W	
R244	1-249-433-11	CARBON	22K	5%	1/4W	
R245	1-249-417-11	CARBON	1K	5%	1/4W	F
R300	1-249-405-11	CARBON	100	5%	1/4W	F
R301	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R302	1-249-405-11	CARBON	100	5%	1/4W	F
R303	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R352	1-249-393-11	CARBON	10	5%	1/4W	F
R400	1-249-389-11	CARBON	4.7	5%	1/4W	F
R401	1-249-429-11	CARBON	10K	5%	1/4W	
R402	1-247-903-00	CARBON	1M	5%	1/4W	
R403	1-247-895-00	CARBON	470K	5%	1/4W	
R404	1-247-895-00	CARBON	470K	5%	1/4W	
R405	1-249-408-11	CARBON	180	5%	1/4W	F
R406	1-249-408-11	CARBON	180	5%	1/4W	F
R407	1-249-410-11	CARBON	270	5%	1/4W	F
R408	1-247-812-11	CARBON	160	5%	1/4W	
R409	1-247-812-11	CARBON	160	5%	1/4W	
R410	1-247-816-11	CARBON	240	5%	1/4W	
R411	1-247-812-11	CARBON	160	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R412	1-249-411-11	CARBON	330	5%	1/4W	
R413	1-249-429-11	CARBON	10K	5%	1/4W	
R414	1-249-429-11	CARBON	10K	5%	1/4W	
R415	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R416	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R417	1-249-437-11	CARBON	47K	5%	1/4W	
R418	1-249-429-11	CARBON	10K	5%	1/4W	
R420	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R422	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R423	1-249-429-11	CARBON	10K	5%	1/4W	
R425	1-249-417-11	CARBON	1K	5%	1/4W	F
R426	1-249-417-11	CARBON	1K	5%	1/4W	F
R427	1-249-417-11	CARBON	1K	5%	1/4W	F
R431	1-249-429-11	CARBON	10K	5%	1/4W	
R432	1-249-415-11	CARBON	680	5%	1/4W	F
R433	1-249-429-11	CARBON	10K	5%	1/4W	
R434	1-249-415-11	CARBON	680	5%	1/4W	F
R435	1-249-429-11	CARBON	10K	5%	1/4W	
R451	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R452	1-249-435-11	CARBON	33K	5%	1/4W	
R453	1-249-437-11	CARBON	47K	5%	1/4W	
R454	1-247-872-11	CARBON	51K	5%	1/4W	
R455	1-247-862-11	CARBON	20K	5%	1/4W	
R456	1-247-866-11	CARBON	30K	5%	1/4W	
R457	1-247-872-11	CARBON	51K	5%	1/4W	
R458	1-249-405-11	CARBON	100	5%	1/4W	F
R459	1-249-381-11	CARBON	1	5%	1/4W	F
R460	1-249-381-11	CARBON	1	5%	1/4W	F
R461	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R462	1-249-435-11	CARBON	33K	5%	1/4W	
R463	1-249-437-11	CARBON	47K	5%	1/4W	
R464	1-247-872-11	CARBON	51K	5%	1/4W	
R465	1-247-862-11	CARBON	20K	5%	1/4W	
R466	1-247-866-11	CARBON	30K	5%	1/4W	
R467	1-247-872-11	CARBON	51K	5%	1/4W	
R468	1-249-405-11	CARBON	100	5%	1/4W	F
R469	1-249-381-11	CARBON	1	5%	1/4W	F
R470	1-249-381-11	CARBON	1	5%	1/4W	F
R471	1-249-429-11	CARBON	10K	5%	1/4W	
R472	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R473	1-249-434-11	CARBON	27K	5%	1/4W	
R474	1-249-429-11	CARBON	10K	5%	1/4W	
R476	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R477	1-249-434-11	CARBON	27K	5%	1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV101	1-230-496-11	RES, ADJ, CARBON 10K	
RV201	1-230-496-11	RES, ADJ, CARBON 10K	

TC MAIN TRANSFORMER

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X401	1-577-358-21	VIBRATOR, CERAMIC	

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Ref. No.	Part No.	Description	Remark
*	1-646-433-21	TRANSFORMER BOARD *****************	
		< CONNECTOR >	
* CN701	1-564-512-11	PLUG, CONNECTOR 9P	
* CN702	1-564-507-11	PLUG, CONNECTOR 4P	
		< DIODE >	
D801	8-719-200-82	DIODE 11ES2	
D803	8-719-200-82	DIODE 11ES2	
D804	8-719-200-82	DIODE 11ES2	
		< TRANSFORMER >	
⚠T801	1-423-421-11	TRANSFORMER, POWER	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
55	1-751-209-11	WIRE, FLAT TYPE (9 CORE)(D259)	
64	1-590-574-11	WIRE, FLAT TYPE (7 CORE)	
65	1-590-485-11	WIRE, FLAT TYPE (7 CORE)	
69	1-751-055-31	WIRE, FLAT TYPE (37 CORE)(D259)	
70	1-690-589-31	WIRE, FLAT TYPE (13 CORE)(D359)	
70	1-751-210-11	WIRE, FLAT TYPE (13 CORE)(D259)	
* 104	1-452-538-11	MAGNET	
114	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
154	1-537-476-11	JUMPER, FILM (WITH TERMINAL)	
⚠201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
271	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
D701	8-719-970-19	DIODE GP-1A521	
HP901	A-2003-838-A	DECK ASSY, HEAD (DECK A)	
HRPE901	A-2004-190-A	DECK ASSY, HEAD (DECK B).	
IC302	8-759-604-95	IC M5F79M07	
M102	X-4917-523-3	BASE (OUTSERT) ASSY (SPINDLE MOTOR)	
M901	X-3359-417-1	MOTOR ASSY (CAPSTAN)	
M902	X-3363-501-1	MOTOR ASSY (REEL)	
Q302	8-729-209-15	TRANSISTOR 2SD2012	
S701	1-572-713-11	SWITCH, PUSH (WITH CONNECTOR)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
* 5	4-941-548-01	LABEL, CLASS 1 (D259:AEP, UK, E, IT, AUS, D359)	
7	4-937-945-01	PLATE (TRANSPORT), LOCK	
* 8	3-703-713-41	STICKER, SONY SYMBOL (10)(D359)	

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****
HARDWARE LIST
****

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#3	7-682-554-04	SCREW +B 3X25
#4	7-682-661-09	SCREW +PSW 4X8
#5	7-685-136-19	SCREW +P 2.6X12 TYPE2 NON-SLIT
#6	7-621-255-15	SCREW +P 2X3
#7	7-621-775-00	SCREW +B 2.6X3
#8	7-627-556-08	SCREW +P 2.6X2.8
#9	7-682-548-04	SCREW +BVTT 3X8 (S)
#11	7-685-648-79	SCREW (M3X12), TAPPING

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Audio Group

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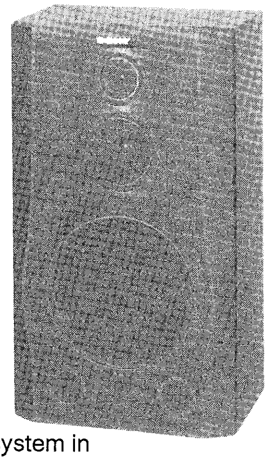
SS-D170

SERVICE MANUAL

US Model
Canadian Model
E Model
Australian Model
PX Model

SPECIFICATIONS

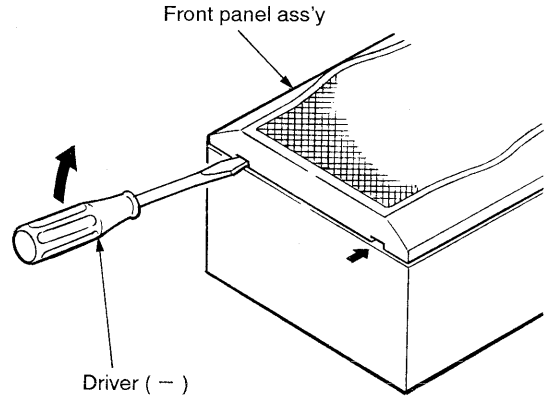
Speaker system	3 way
Mass	Approx. 4.3 kg per speaker
Dimension	Approx. 260 × 450 × 180 mm (w/h/d, including projections)



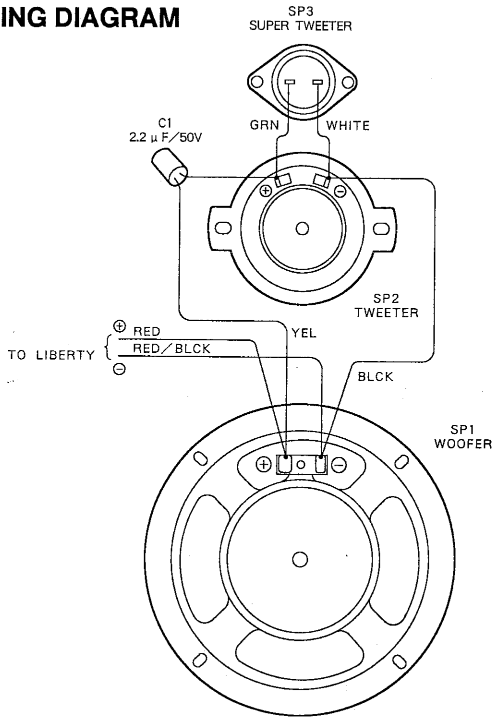
This set is the speaker system in (LBT-D2220/D220CD/D259CD/A270CDM/A11/A11K/A17CD/A17CDM)

1. DISASSEMBLY

FRONT PANEL ASSEMBLY


Front panel ass'y
Driver (−)

2. WIRING DIAGRAM


SP3
SUPER TWEETER
C1
2.2 µF/50V
GRN
WHITE
⊕
⊖
SP2
TWEETER
⊕ RED
RED/BLCK
TO LIBERTY
⊖
YEL
BLCK
SP1
WOOFER
⊕
⊖

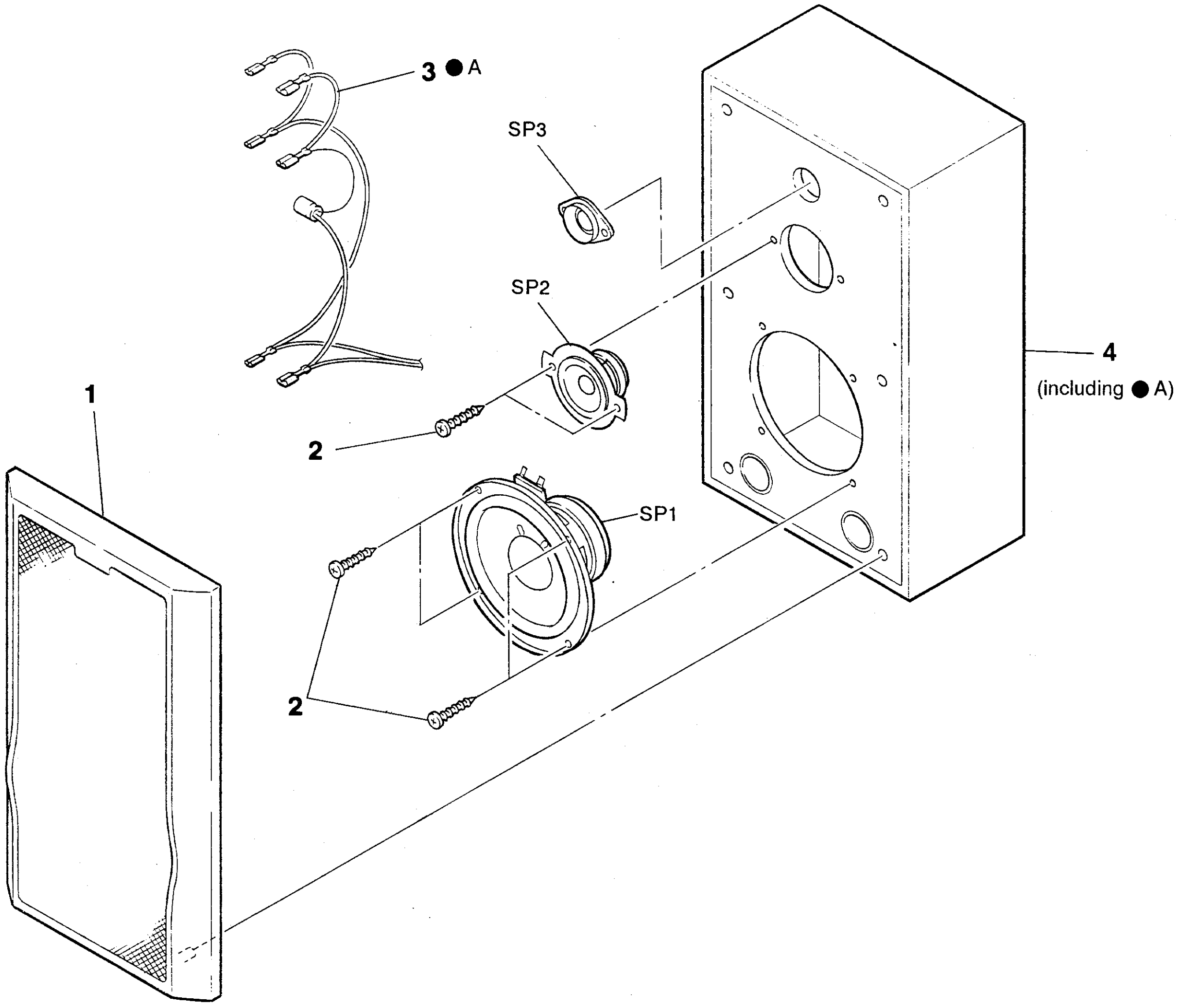
SPEAKER SYSTEM

SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remark
1	X-4943-134-1	PANEL ASSY, FRONT	
2	4-874-614-61	SCREW (M3.5x16) TAPPING	
3	1-575-696-11	CORD, SPEAKER (WITH (C))	
* 4	X-4943-135-1	CABINET ASSY, SPEAKER	
SP1	1-544-451-11	SPEAKER (16CM) (WOOFER)	
SP2	1-544-452-21	SPEAKER (6CM) (TWEETER)	
SP3	1-544-453-21	SPEAKER (2CM) (SUPER TWEETER)	

Sony Corporation
Audio Group

English
93B0943-1
Printed in Japan
© 1993. 2
Published by Audio Corporate Planning Group

STR-A17/D159

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
STR-D159
E Model
Australian Model
PX Model
STR-A17

STR-A17 and STR-D159 are the tuner and amplefier section in LBT-A17CDM and LBT-159CD/D220CD respectively.

Photo : STR-D159

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

For US Model :
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
with 6 ohm loads both channel driven, from 40 - 20,000 Hz; rated 25 watts per channel minimum RMS power, with no more than 0.5% total harmonic distortion from 250 milliwatts to rated output.

Stereo FM-AM receiver

Tuner

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	300 ohms balanced 75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	

MW : 530 to 1710kHz (US, CND model)
: 522 to 1611kHz (IT, G model)
: 531 to 1602kHz (9kHz step) } (E, PX, AUS model)
: 531 to 1710kHz (10kHz step) } (E, PX, AUS model)
: 531 to 1602kHz (Other models)
LW : 153 to 279kHz
SW : 5.95 to 17.90MHz (Mideasten model)

Antenna	AM loop antenna External antenna terminal
Intermediate frequency	4501kHz

Amplifier

Input	Jack type	Sensitivity	Impedance
VIDEO IN	Phono	300 mV	47 kilohms
PHONO	Phono	3 mV	47 kilohms

Output	Jack type	Impedance
SURROUND SPEAKER	Phono	Accepts speakers of 16 ohms
HEADPHONES	Stereo phone	Accepts headphones of 8 ohms or more

Frequency response	VIDEO: 15 Hz to 50 kHz $^{+0}_{-3}$ dB

General

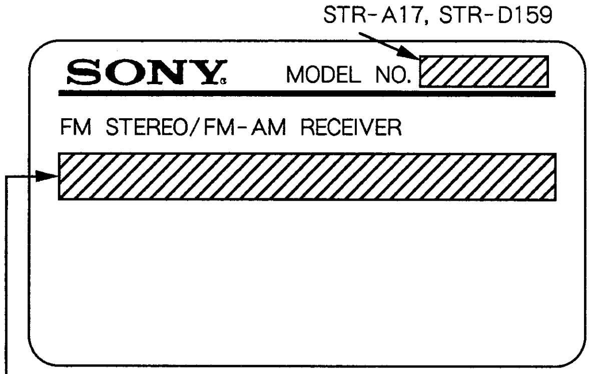
Power requirements	120V AC, 60Hz (US/CND model) 220-230V, 50/60Hz(AEP/G/IT model) 240V AC, 50Hz (UK model) 110-120V/220-240V 50/60Hz (E, PX, AUS model)
Power consumption	115W (US/CND model) 90W (AEP/UK/G/IT model) 110W (E/AUS/PX model)
Mass	Approx. 5.7 kg (12 lb 10 oz)
Dimensions	Approx. 355 x 225 x 330 mm (14 x 8 7/8 x 13 inches) (w/h/d, including projections)

STEREO FM-AM RECEIVER

SONY®

— MODEL IDENTIFICATION —

(Specification Label)



STR-A17, STR-D159

- US, CND model : AC : 120V 60Hz 115W
- AEP, IT, G model : AC : 220V-230~50/60Hz 90W
- UK model : AC : 240V~50Hz 90W
- E, AUS, PX model : AC : 110-120V/220-240V~50/60Hz 110W

Note : CND : Canadian model
IT : Italian model
AUS : Australian model
G : German model

• CAUTION

Be sure to use insulation sheet (⚠4-959-364-01) when replacing power transformer because it is safely related part.

TABLE OF CONTENTS

Section Title Page

1. GENERAL ·· 3

2. DISASSEMBLY

2-1. Front Panel ······································ 4
2-2. Panel Board ······································ 4
2-3. Power Amplifier Board ·························· 5
2-4. Main/Tuner Board ······························ 5

3. ADJUSTMENTS ····································· 6

4. DISASSEMBLY

4-1. Schematic diagram —Tuner Section— ········· 7
4-2. Printed Wring Board —Main Section— ······· 11
4-3. Schematic Diagram —Main Section— ········· 15
4-4. Schematic Diagram —Display Section— ······ 19
4-5. Printed Wring Board —Display Section— ···· 23
4-6. Circuit Boards Location ························ 26
4-7. Semiconductor lead layouts ··················· 26

5. DISASSEMBLY

5-1. Front Panel Section ··························· 27
5-2. Back Panel Section ···························· 28

6. ELECTRICAL PARTS LIST ························· 30

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

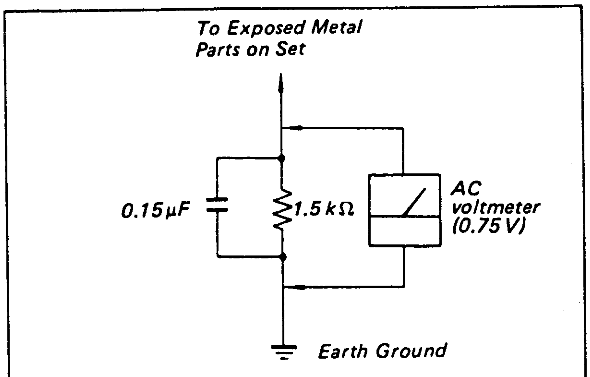
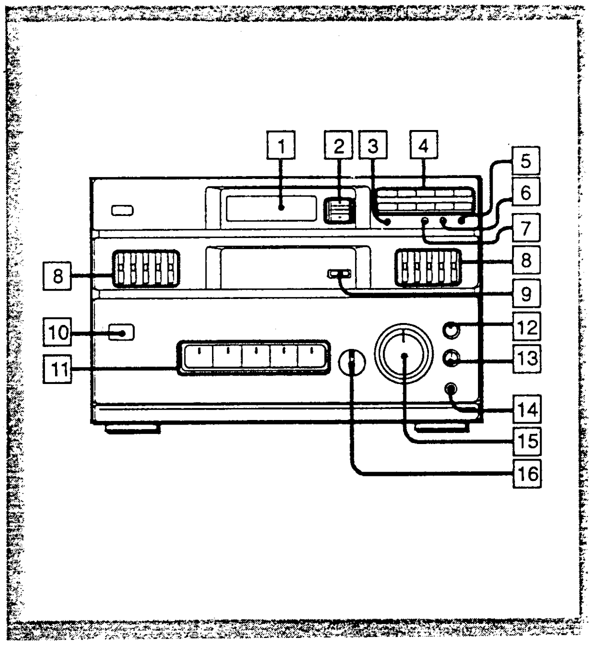


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Refer to the pages indicated in parentheses for details.



Tuner

1 Display window
2 DUAL MODE TUNING +/– buttons (pages 8, 9)
3 MEMORY button (page 9)
4 PRESET STATIONS Numeric buttons (page 9)
5 SHIFT button (page 9)
6 BAND SELECT button (page 8)
7 ST/MUTE button (page 8)

Graphic Equalizer

8 5 BAND GRAPHIC EQUALIZER controls (page 6)
9 EQUALIZER switch (page 6)

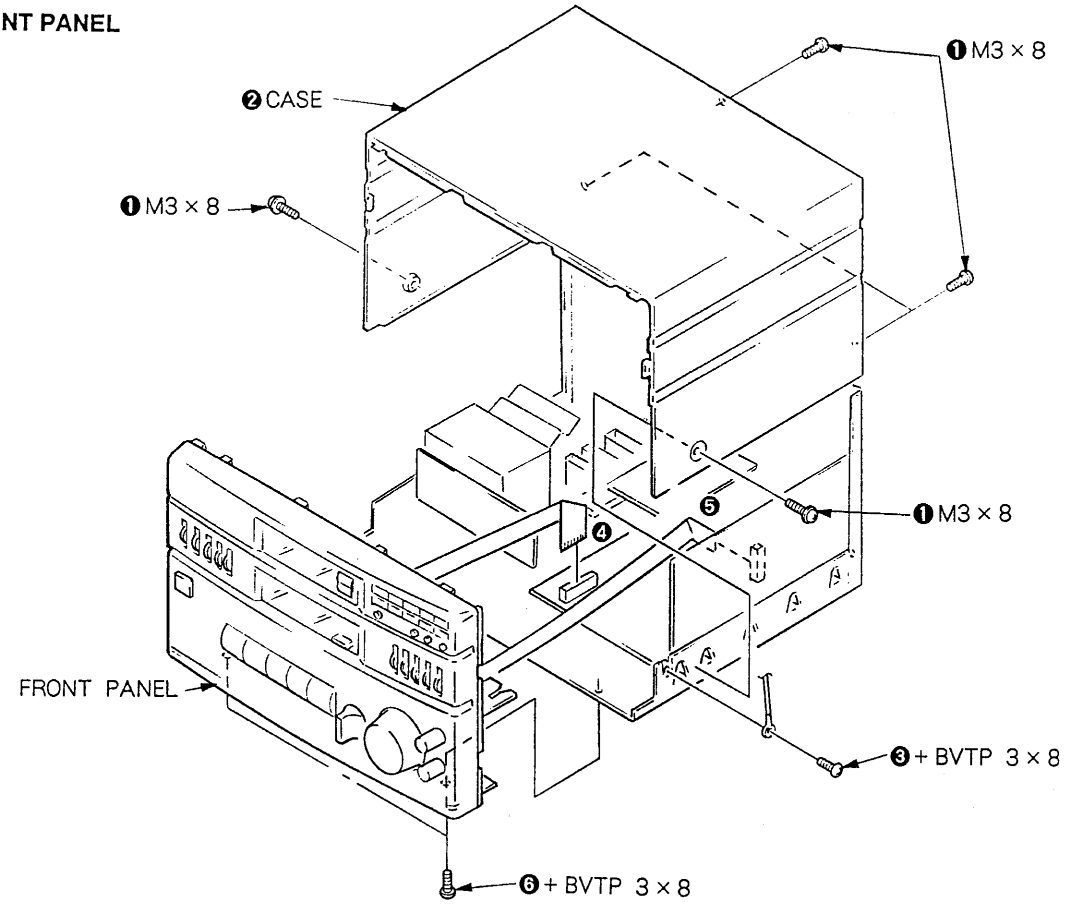
Amplifier

10 POWER switch (page 5)
11 Function selectors and indicators (VIDEO/TAPE/CD/TUNER/PHONO)
12 BALANCE control (page 6)
13 SURROUND control (page 6)
14 HEADPHONES jack (page 6)
15 VOLUME control (page 6)
16 DBFB (dynamic bass feedback) control (page 6)

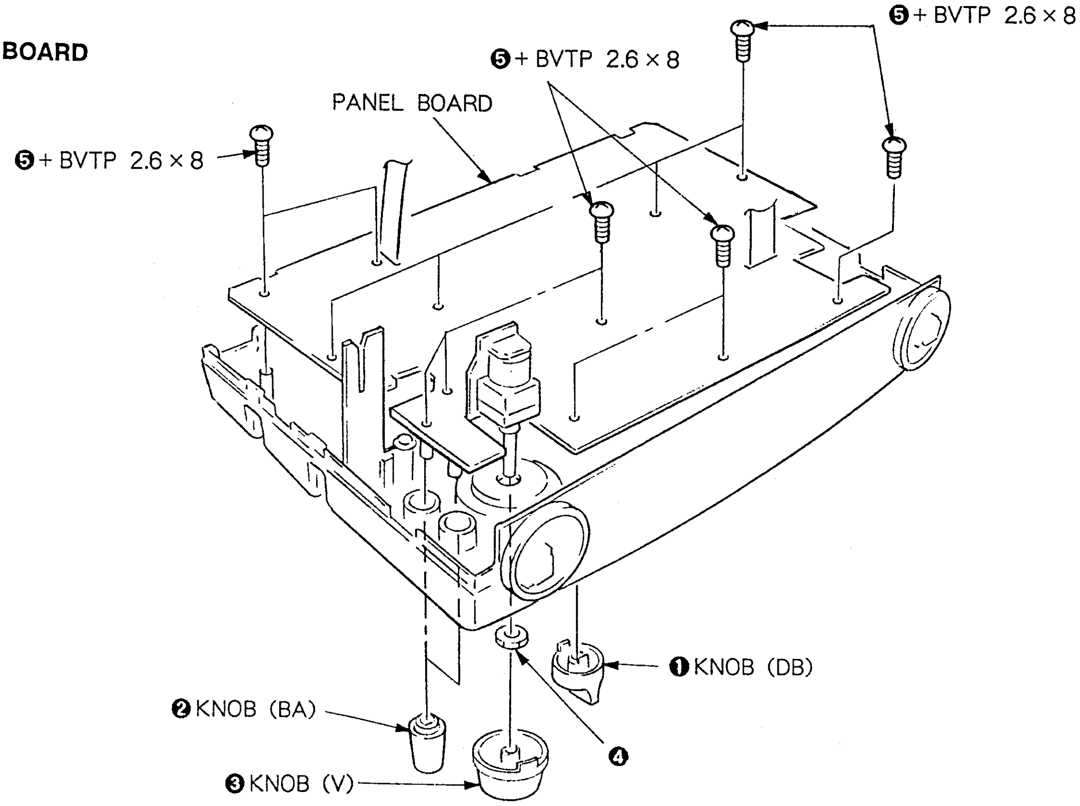
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

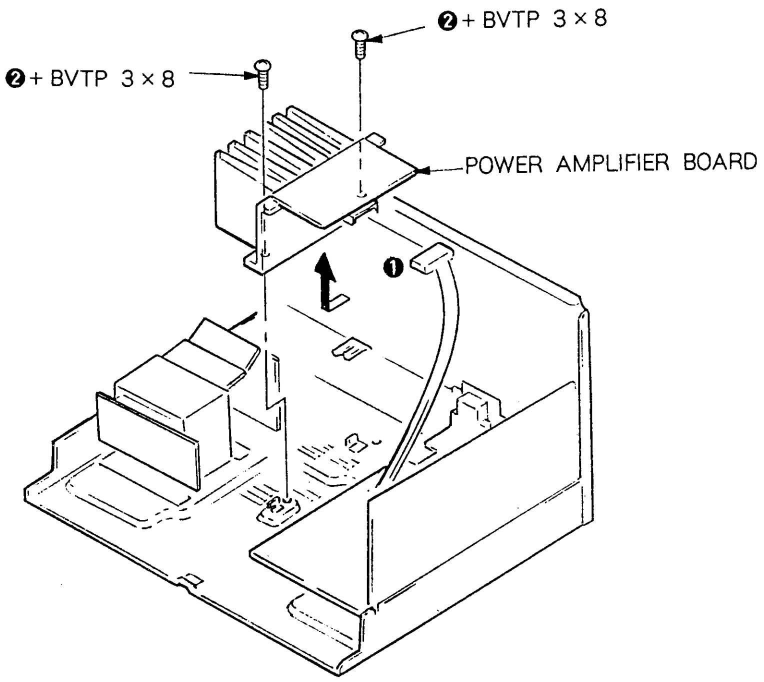
2-1. FRONT PANEL


❶M3 × 8
❷CASE
❶M3 × 8
❶M3 × 8
❹
❺
FRONT PANEL
❸+ BVTP 3 × 8
❻+ BVTP 3 × 8

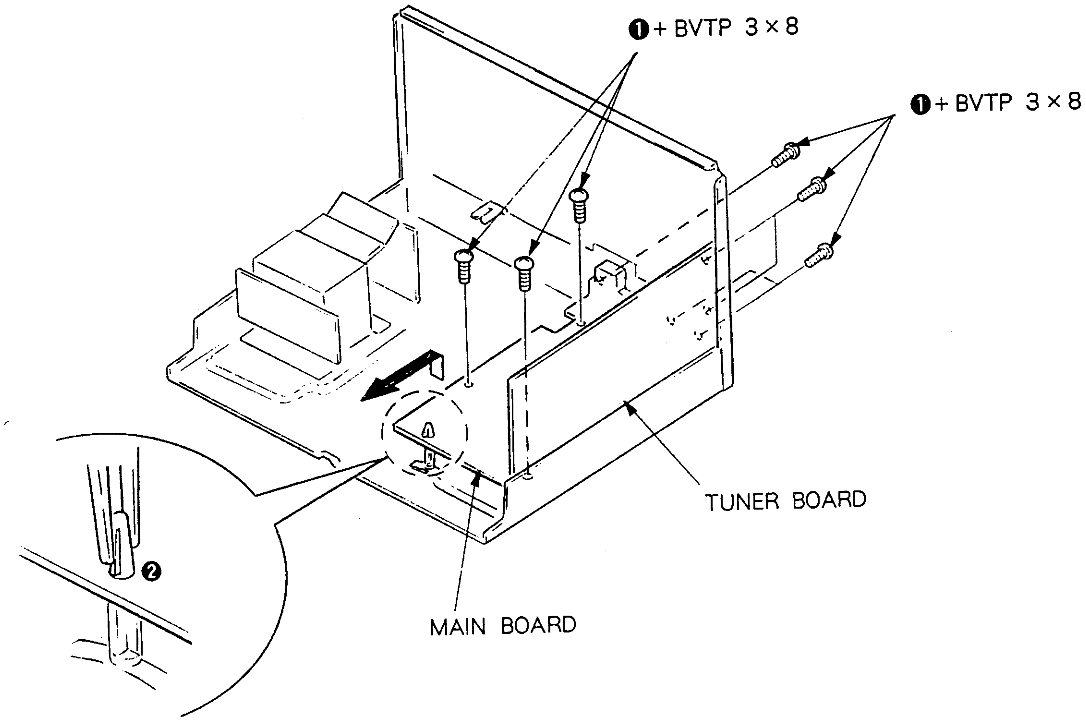
2-2. PANEL BOARD


❺+ BVTP 2.6 × 8
❺+ BVTP 2.6 × 8
PANEL BOARD
❺+ BVTP 2.6 × 8
❶KNOB (DB)
❷KNOB (BA)
❹
❸KNOB (V)

2-3. POWER AMPLIFIER BOARD


❷+ BVTP 3 × 8
❷+ BVTP 3 × 8
POWER AMPLIFIER BOARD
❶

2-4. MAIN /TUNER BOARD


❶+ BVTP 3 × 8
❶+ BVTP 3 × 8
❷
TUNER BOARD
MAIN BOARD

SECTION 3

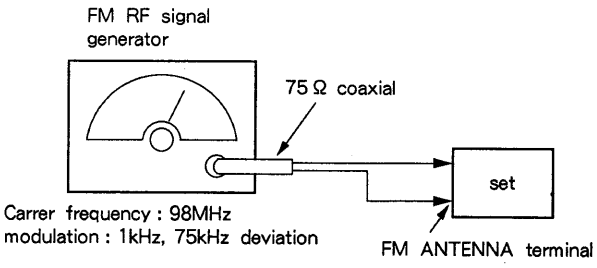
ADJUSTMENTS

Note: As a front-end (FE301) is difficult to repair if faulty, replace it with new one.

TUNER SECTION

FM SECTION ADJUSTMENTS

Setting :


FM RF signal generator
75 Ω coaxial
set
Carrer frequency : 98MHz
modulation : 1kHz, 75kHz deviation
FM ANTENNA terminal

• TUNER OUT CHECK POINT

Speaker out receive 98MHz 60dB μ (1mV) and set the Speaker out to 10dBs by VOLUME.

Speaker load : 6 Ω both CH

FM NULL Adjustment

Procedure :

1. Supply a 60dB μ (1mV) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust T301 for 0V reading on the measurement point.

FM Tuned Indication Lighting Level Adjustment

Band : FM
ST/MUTE SW : OFF

Procedure :

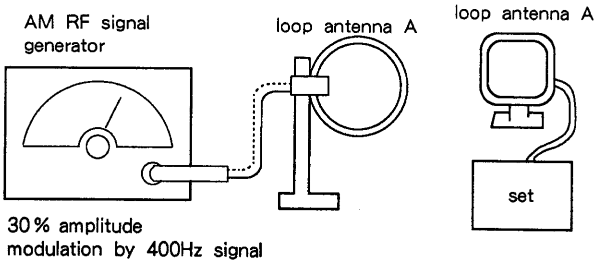
1. Supply a 24 ± 1 μV (25 ± 4dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV302 so that the FL601 TUNED light up.

Adjustment Location: tuner board

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by trimmer capacitors.

AM SECTION ADJUSTMENT

Setting :


AM RF signal generator
loop antenna A
loop antenna A
set
30 % amplitude modulation by 400Hz signal

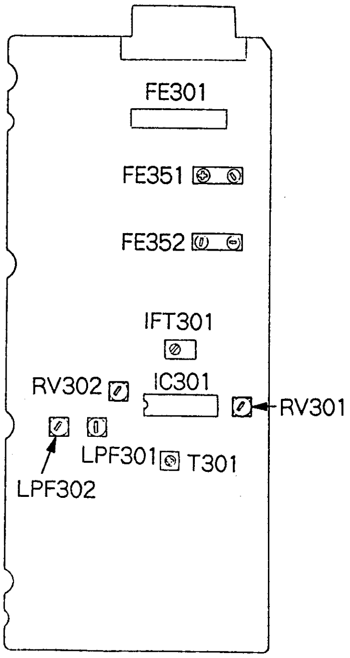
AM Tuned Indication Lighting Level Adjustment

Band : AM

Procedure :

1. Set loop antenna input level to 94dBμ/m, 1050 kHz and no signal tuned light should not on.
2. Ture the set to 1050kHz
3. Adjust RV301 so that the FL601 TUNED light up.

Adjustment Location: tuner board (Component side)


FE301
FE351
FE352
IFT301
RV302
IC301
RV301
LPF301
T301
LPF302

SECTION 4
DIAGRAMS

Note on Schematic Diagram :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note:	Note:
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

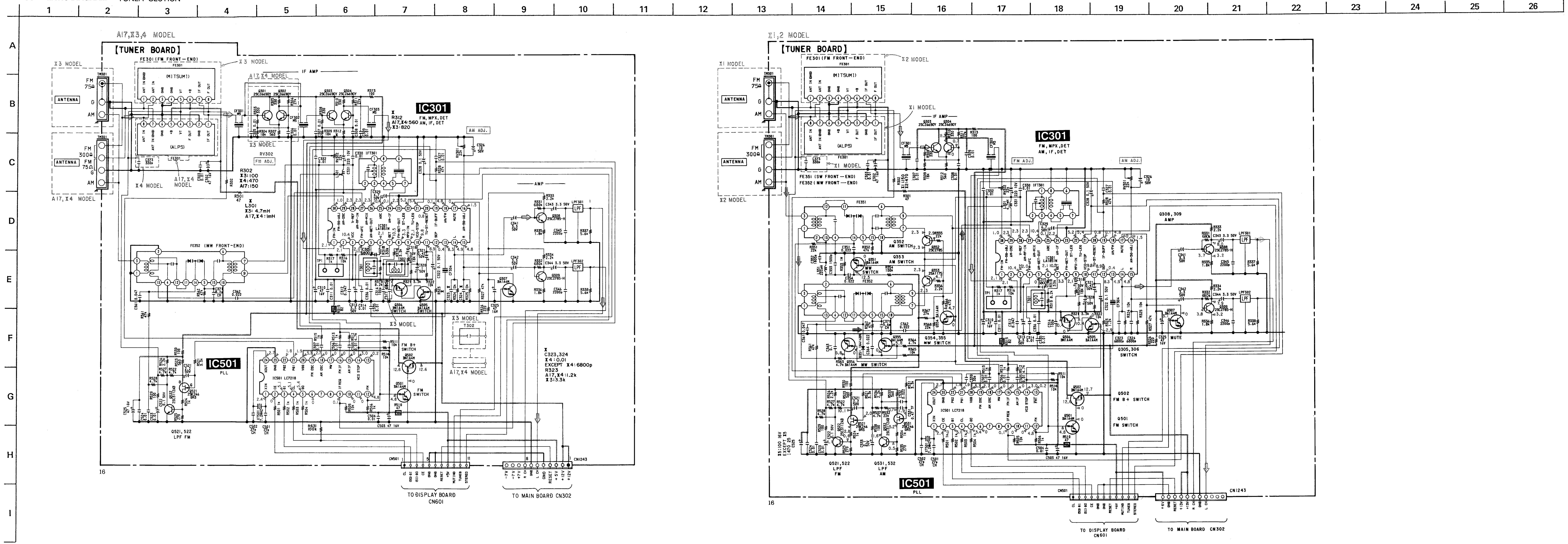
- ▭ : adjustment for repair.
- ▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

- Model name and destination shown by ∗1 to ∗4.

∗1 : D159 : AEP, AE2
∗2 : D159 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

4-1. SCHEMATIC DIAGRAM — TUNER SECTION —


A17,∗3,4 MODEL
[TUNER BOARD]
FE301 (FM FRONT-END)
(MITSUMI)
(ALPS)
∗3 MODEL
A17,∗4 MODEL
∗4 MODEL
IF AMP
IC301
FM, MPX, DET
AM, IF, DET
FM ADJ.
AM ADJ.
FE352 (MW FRONT-END)
AMP
LPF301
LPF302
IC501
PLL
Q521,522
LPF FM
FM B+ SWITCH
FM SWITCH
TO DISPLAY BOARD CN601
TO MAIN BOARD CN302
CN501
CN1243
∗1,2 MODEL
∗1 MODEL
∗2 MODEL
FE351 (SW FRONT-END)
FE352 (MW FRONT-END)
Q302 AM SWITCH
Q353 AM SWITCH
MW SWITCH
Q308,309 AMP
MUTE
Q305,306 SWITCH
Q502 FM B+ SWITCH
Q501 FM SWITCH
Q531,532 LPF AM
IC501 LC7218
ANTENNA
FM 75Ω
FM 300Ω
AM
G

- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D351 (B)	E-6	IC1306	C-12
D1201	E-19	IC1601	J-19
D1202	E-15		
D1203	E-15	Q301 (E)	D-3
D1204	G-15	Q302 (E)	D-3
D1205	C-14	Q303 (E)	E-3
D1251	G-19	Q303 (B)	E-7
D1302	E-12	Q304 (E)	E-3
D1303	E-12	Q304 (B)	E-7
D1304	E-12	Q305 (E)	I-3
D1305	E-13	Q305 (B)	I-7
D1306	E-13	Q306 (E)	I-3
D1307	J-23	Q306 (B)	I-7
D1309	I-23	Q307 (E)	H-4
D1311	I-24	Q307 (B)	H-9
D1316	H-12	Q308 (E)	H-4
D1318	D-13	Q308 (B)	H-8
D1319	D-14	Q309 (E)	H-4
D1321	B-27	Q309 (B)	H-9
D1322	C-27	Q351 (B)	D-7
D1323	E-13	Q352 (B)	D-7
D1324	E-13	Q353 (B)	E-7
D1341	I-14	Q354 (B)	E-7
D1345	I-13	Q355 (B)	E-6
D1354	B-25	Q356 (B)	E-7
D1355	B-25	Q501 (E)	F-1
D1368	D-14	Q501 (B)	F-6
D1369	D-13	Q502 (E)	F-1
D1370	J-24	Q502 (B)	F-6
		Q521 (E)	C-4
IC301 (E)	G-2	Q521 (B)	C-9
IC301 (B)	G-7	Q522 (E)	B-4
IC501 (E)	E-4	Q522 (B)	B-9
IC501 (B)	E-9	Q531 (B)	D-8
IC1001	D-11	Q532 (B)	C-9
IC1002	G-11	Q1201	E-19
IC1003	I-11	Q1202	H-18
IC1201	F-20	Q1203	H-18
IC1202	F-15	Q1204	H-15
IC1302	J-12	Q1251	G-19
IC1303	I-14	Q1301	J-23
IC1304	H-13	Q1302	J-13
IC1305	H-14		

(B) : ∗1, 2

(E) : A17, ∗3, 4

Note on Mounting Diagram :

- ○—— : Parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

- Model name and destination shown by ∗1 to ∗4.

∗1 : D159 : AEP, AE2
∗2 : D159 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

4-2. PRINTED WIRING BOARD — MAIN SECTION —

1
2
3
4
5
6
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9
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12
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16
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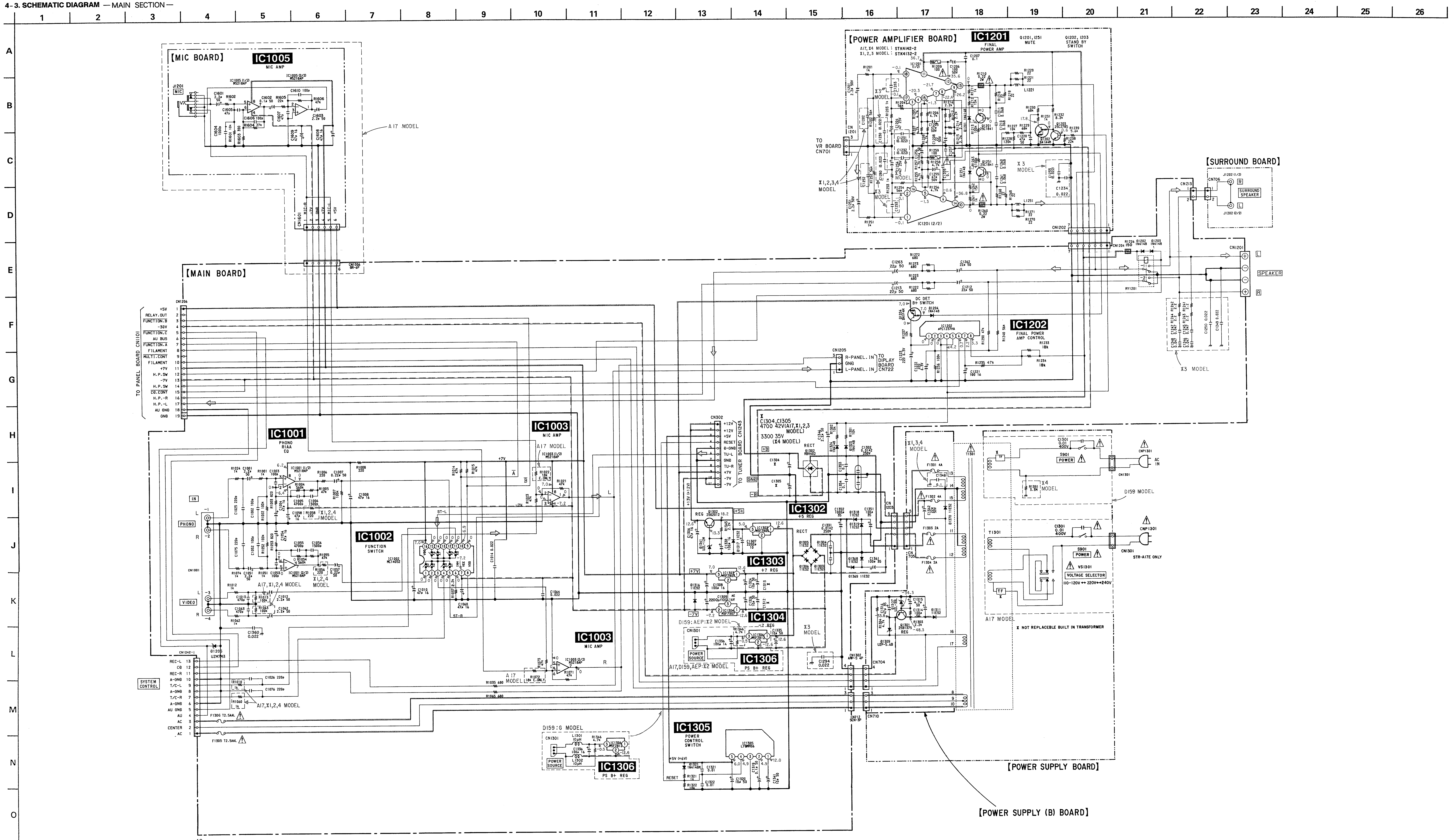
18
19
20
21
22
23
24
25
26
27
28
29
30
A
B
C
D
E
F
G
H
I
J
A17, ∗3, 4 MODEL
[TUNER BOARD]
A17, ∗4 MODEL
TM301 ANTENNA
FM75Ω
AM
∗3 MODEL
A17, ∗4 MODEL
IC501
IC301
Q501
Q502
TO PANEL BOARD CN601
1-646-482
∗1, 2 MODEL
[TUNER BOARD]
∗1 MODEL
TO PANEL BOARD CN722
[MAIN BOARD]
PHONO
CN1001 IN
VIDEO
SYSTEM CONTROL
A17, D159: AEP, ∗2, G MODEL
POWER SOURCE
CN1201 SPEAKER
R
L
∗3 MODEL
IC1306
IC1001
IC1002
IC1302
IC1303
IC1304
IC1305
A17 MODEL
TO PANEL BOARD CN1101
1-646-482
J1202 SURROUND SPEAKER
A17, ∗1, 2, 3 MODEL
[SURROUND BOARD]
1-646-484
CN1203
TO VR BOARD CN701
[POWER AMPLIFIER BOARD]
∗3 MODEL
∗1, 2, 3, 4 MODEL
1-646-478
A17 MODEL
[MIC BOARD]
IC1601
MIC
1-646-479
AC IN
(CHASSIS)
A17 MODEL
S901 POWER
ON
OFF
ALPS
VS1301 VOLTAGE SELECTOR
110-120V ↔ 220-240V
[POWER SUPPLY BOARD]
∗4 MODEL
D159 MODEL
A17 MODEL
C1501
1-646-481
T1301 POWER TRANSFORMER
[POWER SUPPLY (B) BOARD]
D1309
D1311
D1370
F1301
F1302
F1303
F1304
∗1, 3, 4 MODEL
1-646-478
(CHASSIS)

4-3. SCHEMATIC DIAGRAM — MAIN SECTION —


[MIC BOARD]
IC1005
MIC AMP
J1201 MIC
A17 MODEL
CN1601
[MAIN BOARD]
CN1206
+5V
RELAY.OUT
FUNCTION.B
-30V
FUNCTION.C
AU BUS
FUNCTION.A
FILAMENT
MULTI.CONT
FILAMENT
+7V
H.P.SW
-7V
H.P.SW
CB.CONT
H.P.-R
H.P.-L
AU GND
GND
TO PANEL BOARD CN1101
IC1001
PHONO RIAA EQ
IC1002
FUNCTION SWITCH
IC1003
MIC AMP
IN
PHONO
VIDEO
CN1001
ST-L
ST-R
A17,*1,2,4 MODEL
*1,2,4 MODEL
A17 MODEL
SYSTEM CONTROL
CN1242-1
REC-L
CO
REC-R
A-GND
T/C-L
A-GND
T/C-R
A-GND
AU GND
AU
AC
CENTER
AC
F1306 T2.5AL
F1305 T2.5AL
CN302
+12V
+12V
+5V
RESET
B-GND
TU-L
GND
TU-R
+7V
-7V
-7V
TO TUNER BOARD CN1243
IC1302
+5 REG
IC1303
+7 REG
IC1304
-7 REG
IC1305
POWER CONTROL SWITCH
IC1306
PS B+ REG
D159:AEP:*2 MODEL
A17,D159,AEP:*2 MODEL
D159:G MODEL
POWER SOURCE
*3 MODEL
C1304,C1305 4700 42V(A17,*1,2,3 MODEL) 3300 35V (*4 MODEL)
RECT
[POWER AMPLIFIER BOARD]
IC1201
FINAL POWER AMP
Q1201,1251 MUTE
Q1202,1203 STAND BY SWITCH
A17,*4 MODEL : STK4142-2
*1,2,3 MODEL : STK4132-2
TO VR BOARD CN701
CN1201
*1,2,3,4 MODEL
*3 MODEL
IC1201 (2/2)
CN1202
[SURROUND BOARD]
CN213
CN706
J1202
SURROUND SPEAKER
CN1201
SPEAKER
L
R
RY1201
DC DET B+ SWITCH
IC1202
FINAL POWER AMP CONTROL
CN1205
R-PANEL. IN
GND
L-PANEL. IN
TO DIPLAY BOARD CN722
*3 MODEL
*1,3,4 MODEL
T1301
S901 POWER
CNP1301 AC IN
D159 MODEL
*4 MODEL
STR-A17E ONLY
VS1301 VOLTAGE SELECTOR 110~120V ↔ 220V↔240V
A17 MODEL
* NOT REPLACEABLE BUILT IN TRANSFORMER
CN704
CN710
[POWER SUPPLY BOARD]
[POWER SUPPLY (B) BOARD]

Note on Schematic Diagram :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- ▭ : adjustment for repair.
- ▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

- Model name and destination shown by ∗1 to ∗4.

∗1 : D159 : AEP, AE2
∗2 : D159 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

4-4. SCHEMATIC DIAGRAM — DISPLAY SECTION —

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
A B C D E F G H I J K L M N O
[PANEL BOARD]
FL601
TO TUNER BOARD CN501
CN601
STEREO.IN
TUNED.IN
MUT
+6V
RESET
DIGITAL.GND
CE
SI
SO
CL
D1154
IC601
DISPLAY CONTROL
μPD75212ACW
Q601 2SC2785 RESET
X601
LIVE H
IC1104
IC1104 SN74HC00N LED SWITCH
Q1145 BN1A4M 10K.10K LED B+ SWITCH
Q1122 2SA1175 TAPE LED SWITCH
(PHONO) (TAPE)
(CD)
(VIDEO) (TUNER)
Q1136, 1138, 1121 FUNCTION SWITCH
FUNCTION.A
FUNCTION.B
FUNCTION.C
Q1144 BA1A4M 10K.10K CD LED SWITCH
Q1143 SWITCH
Q603 BUFFER
Q602 SIRCS AMP
IC602
REMOTE RECIEVER
GP1U50XB
Q1141 BN1F4M 22K.22K MUTE
(VOL.LED) D1145
Q1146 MULTI LED SWITCH
IC1003
VOL MOTOR CONTROL
IC1103 LB1639
VOL.A
VOL.B
[VR BOARD]
D159:IT, ※4 MODEL
A17, ※4 MODEL
1N4148M x 6
1 S601
2 S602
3 S603
4 S604
5 S605
6 S606
7 S607
8 S608
9 S609
0 S610
+ S611
− S612
SHIFT S613
BAND S614
ST/MUTE S615
MEMORY S616
VIDEO S619
TAPE S620
CD S621
TUNER S622
PHONO S623
KO-1 KO-2 KO-3 KO-4 KO-5 KO-6
KI-1 KI-2 KI-3 KI-4
DO-2 DO-3 DO-4
TO MAIN BOARD CN1206
CN1101
B+
+5V
RELAY.OUT
FUNCTION.B
-30V
FUNCTION.C
AU BUS
FUNCTION.A
FILAMENT
MULTI.CONT
FILAMENT
+7V
H.P.SW
-7V
H.P.SW
-7V
H.P.-R
H.P.-L
AU GND
GND
D606 UZL7M3
IC1101
AMP
IC1101 (1/2) M5218P
IC1101 (2/2) M5218P
SURROUND
DBFB
Q1101, 1151 V CONSTANT
B−
+7V
-7V
100Hz 330Hz 1KHz 3.3KHz 10KHz
IC1102
GEQ AMP
S1102 EQULIZER OFF → ON
BALANCE
MUTE
VOLUME
Q1102 2SC3622A MUTE
Q1152 2SC3622A MUTE
CN701
L-PANEL.OUT
GND
R-PANEL.OUT
TO POWER AMPLIFIER BOARD CN1201
CN722
L-PANEL.IN
GND
R-PANEL.IN
TO MAIN BOARD CN1201
J601 HEAD PHONES
CN755
CN723
※3 MODEL
[H.P BOARD]
16

Note on Schematic Diagram :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.

Note: The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number sppecified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

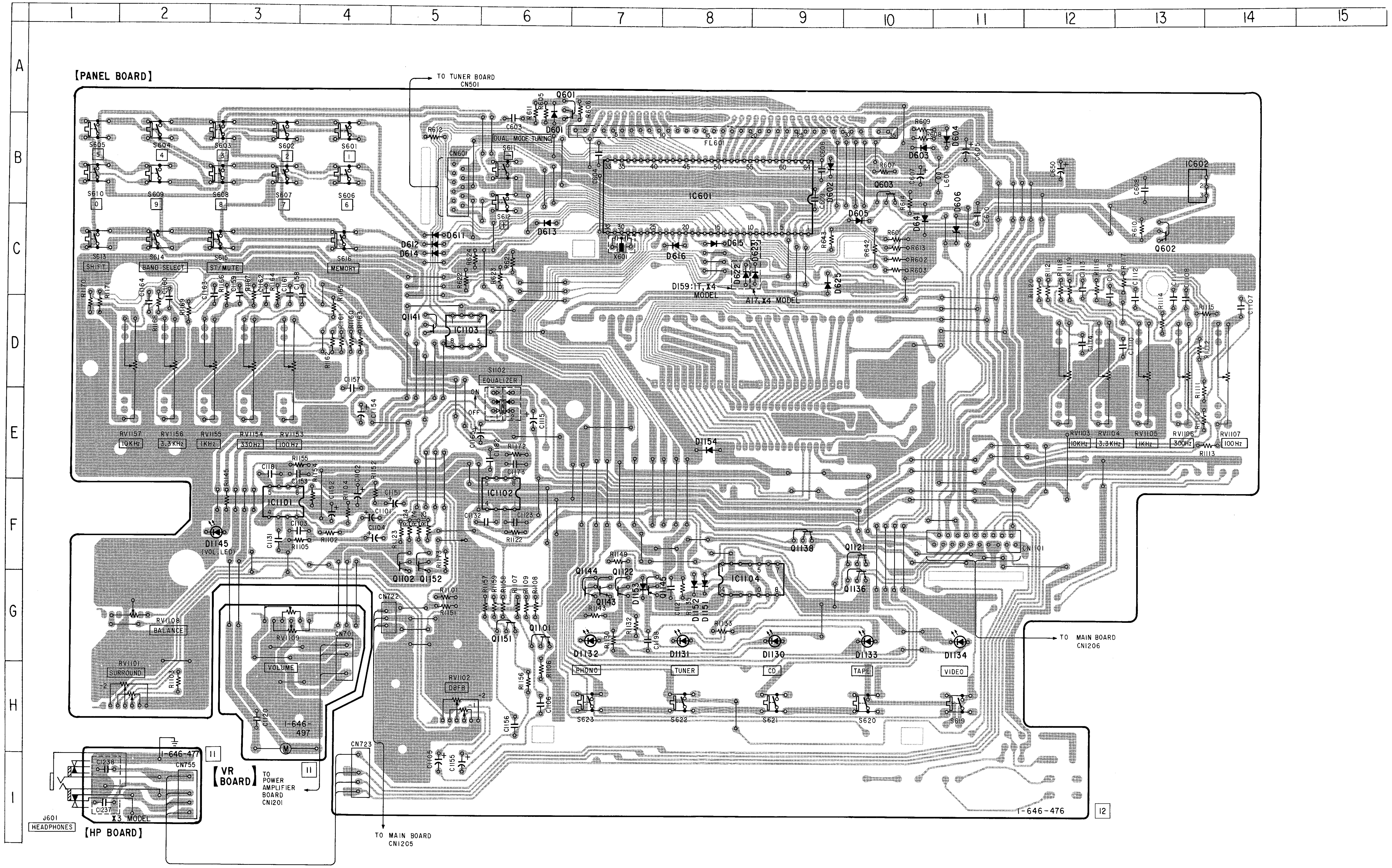
- ▭ : adjustment for repair.
- ▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
  no mark : FM
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

- Model name and destination shown by ∗1 to ∗4.

∗1 : D159 : AEP, AE2
∗2 : D159 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

4-5. PRINTED WIRING BOARD — DISPLAY SECTION —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
[PANEL BOARD]
TO TUNER BOARD CN501
DUAL MODE TUNING
IC601
FL601
IC602
Q601
Q602
Q603
D601
D603
D604
D605
D606
D611
D612
D613
D614
D615
D616
D622
D625
D641
D159:IT, X4 MODEL
A17, X4 MODEL
SHIFT
BAND SELECT
ST/MUTE
MEMORY
S601
S602
S603
S604
S605
S606
S607
S608
S609
S610
S612
S613
S614
S615
S616
IC1103
Q1141
S1102
EQUALIZER
ON
OFF
RV1157
10KHz
RV1156
3.3KHz
RV1155
1KHz
RV1154
330Hz
RV1153
100Hz
RV1103
10KHz
RV1104
3.3KHz
RV1105
1KHz
RV1106
330Hz
RV1107
100Hz
D1154
IC1101
IC1102
IC1104
D1145
(VOL LED)
Q1102
Q1152
Q1101
Q1151
Q1121
Q1122
Q1136
Q1138
Q1143
Q1144
Q1145
CN1101
RV1108
BALANCE
RV1101
SURROUND
RV1109
VOLUME
CN701
CN722
CN723
RV1102
D.BFB
1-646-497
D1132
D1131
D1130
D1133
D1134
PHONO
TUNER
CD
TAPE
VIDEO
S623
S622
S621
S620
S619
TO MAIN BOARD CN1206
1-646-476
12
11
J601
HEADPHONES
1-646-477
CN755
X3 MODEL
[HP BOARD]
[VR BOARD]
TO POWER AMPLIFIER BOARD CN1201
TO MAIN BOARD CN1205

- Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D601	B-6	D1154	E-8
D602	B-9		
D603	B-10	IC601	B-8
D604	B-11	IC602	B-13
D605	C-10	IC1101	F-3
D606	B-11	IC1102	F-6
D611	C-5	IC1103	D-5
D612	C-5	IC1104	G-8
D613	C-6		
D614	C-5	Q601	A-6
D615	C-8	Q602	C-13
D616	C-8	Q603	B-10
D622	C-8	Q1101	G-6
D623	C-9	Q1102	G-5
D625	C-9	Q1121	F-10
D641	C-10	Q1122	F-7
D1130	G-9	Q1136	G-10
D1131	G-8	Q1138	F-9
D1132	G-7	Q1141	D-5
D1133	G-10	Q1143	G-7
D1134	G-11	Q1144	F-7
D1145	F-3	Q1145	G-8
D1151	G-8	Q1151	G-6
D1152	G-8	Q1152	G-5
D1153	G-7		

Note on Mounting Diagram :

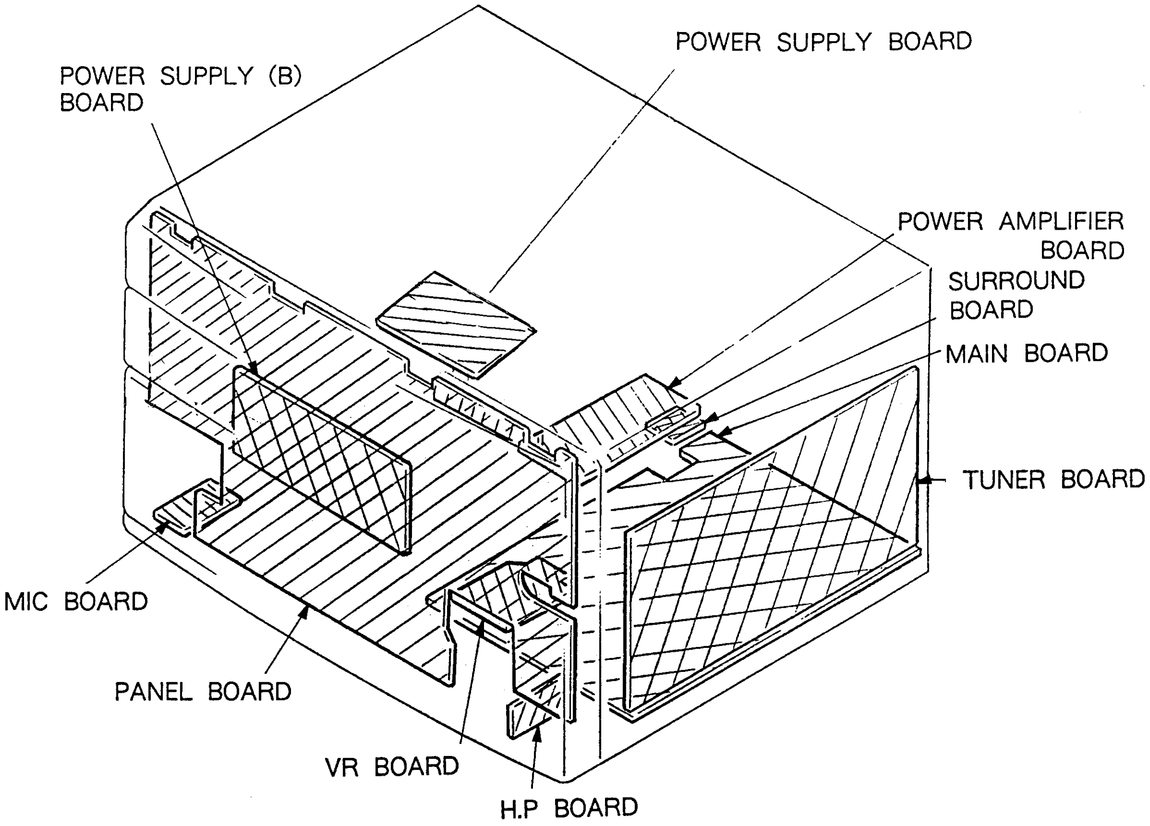
- ○——— : Parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

- Model name and destination shown by ∗1 to ∗4.

∗1 : D159 : AEP, AE2
∗2 : D159 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

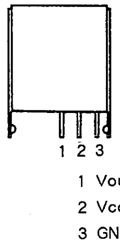
AE2 : AEP (with in PHONO MODEL)

4-6. CIRCUIT BOARDS LOCATION

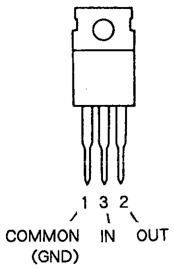

POWER SUPPLY BOARD
POWER SUPPLY (B) BOARD
POWER AMPLIFIER BOARD
SURROUND BOARD
MAIN BOARD
TUNER BOARD
MIC BOARD
PANEL BOARD
VR BOARD
H.P BOARD

4-7. SEMICONDUCTOR LEAD LAYOUTS

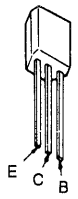
GP1U50XB


1 2 3
1 Vout
2 Vcc
3 GND

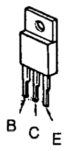
M5F79M07


1 3 2
COMMON (GND)
IN
OUT

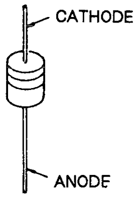
DTA114ES
DTC114ES
DTC124ES
2SC2603-EF
2SC2669-0Y
2SC3622A-LK



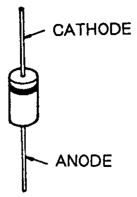
2SA473
2SD2012



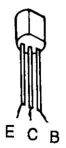
HZS7B3L
UZL-12M3
UZL-33L
UZL-5.8B
UZ-3.9BSB
11ES2


CATHODE
ANODE

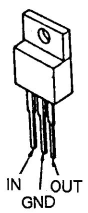
1N4148M


CATHODE
ANODE

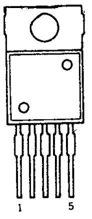
2SC1841-PAFAEA
2SC3112-B



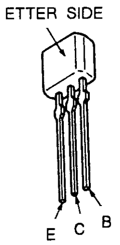
M5F7805
M5F7807L
M5F7812L



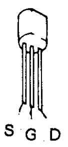
L78MR06



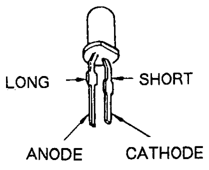
DTA124ES
2SA1175-HFE
2SC2785-HFE


ETTER SIDE
E
C
B

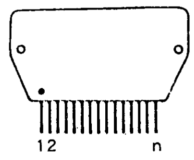
2SK246-GR3



SEL2210S-CD
SEL3210S-CD


LONG
SHORT
ANODE
CATHODE

STK-4132MK2
STK-4142MK2



(MAKING SIDE VIEW)

SECTION 5
EXPLODED VIEWS

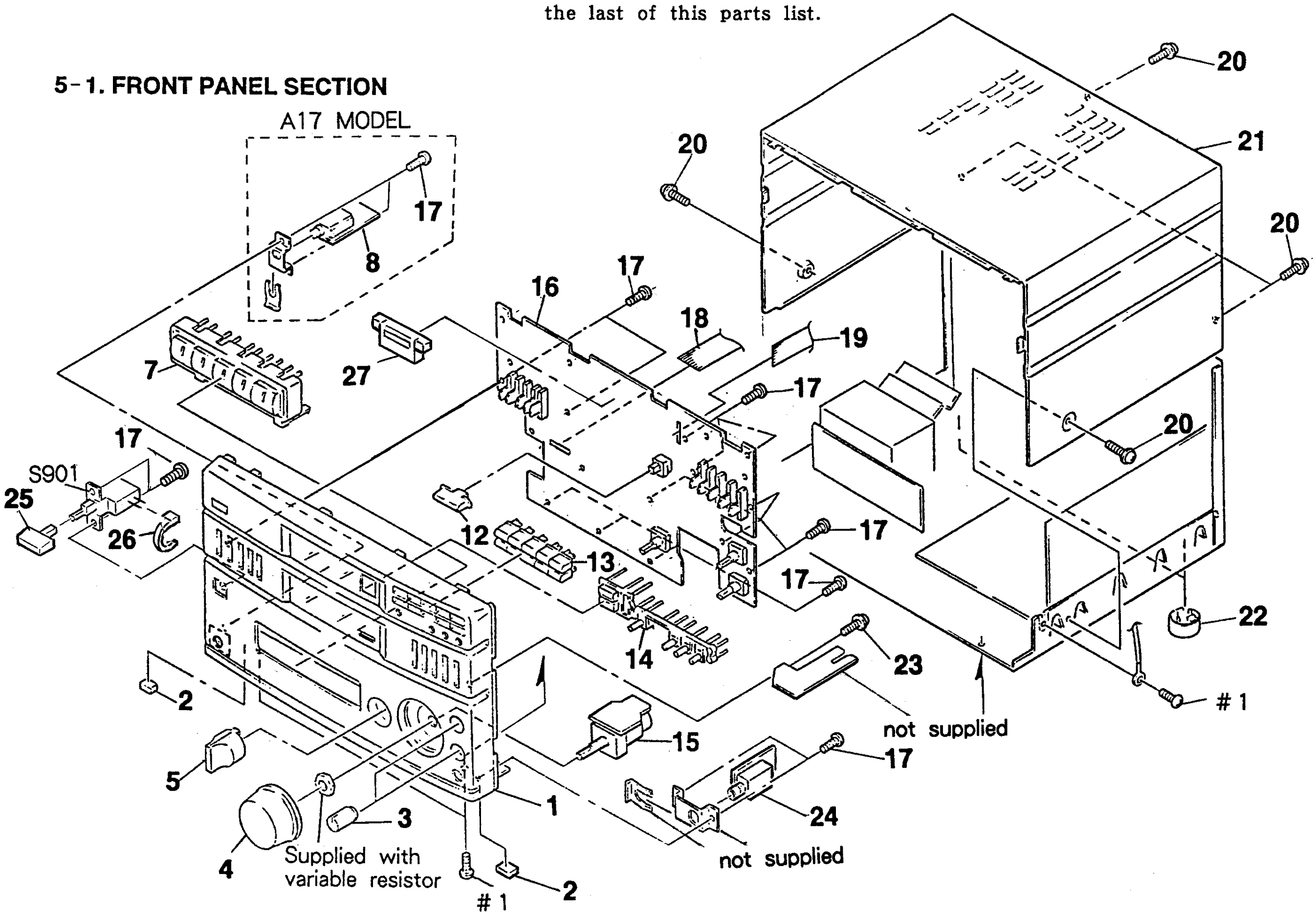
NOTE:

- –XX, –X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Model name and destination shown by ∗1 to ∗4.

∗1 : A27 : AEP, AE2
∗2 : A27 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

5-1. FRONT PANEL SECTION

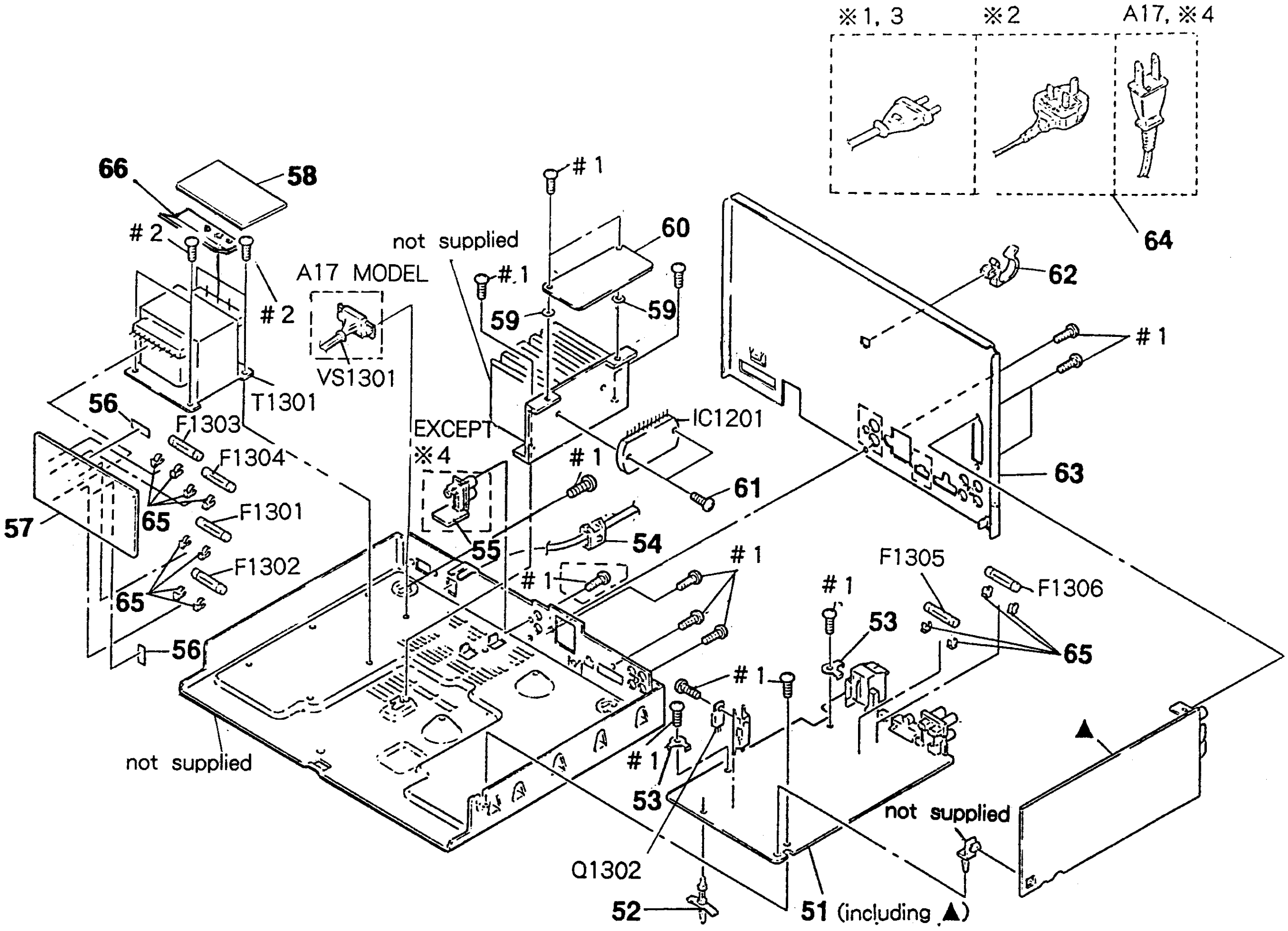


Ref. No.	Part No.	Description	Remarks
1	X-4943-178-1	PANEL ASSY, FRONT (D159)	
1	X-4943-188-1	PANEL ASSY, FRONT (A17)	
2	4-948-236-01	CUSHION (107)	
3	4-955-744-01	KNOB (BA)	
4	4-955-635-01	KNOB (V)	
5	4-955-636-01	KNOB (DB)	
7	X-4943-179-1	BUTTON (FU) ASSY	
* 8	1-646-479-11	MIC BOARD (A17)	
12	4-955-755-01	BUTTON (EQ)	
13	4-955-741-01	BUTTON (PR)	
14	4-955-745-01	BUTTON (ST)	
* 15	1-646-497-11	VR BOARD	
* 16	A-4356-667-A	PANEL BOARD, COMPLETE (D159:AEP,AE2)	
* 16	A-4356-679-A	PANEL BOARD, COMPLETE (D159:UK)	
* 16	A-4356-691-A	PANEL BOARD, COMPLETE (D159:US,CND)	

Ref. No.	Part No.	Description	Remarks
* 16	A-4356-702-A	PANEL BOARD, COMPLETE (A17)	
* 16	A-4356-711-A	PANEL BOARD, COMPLETE (D159:IT)	
* 16	A-4365-503-A	PANEL BOARD, COMPLETE (D159:G)	
17	4-951-620-01	SCREW (2.6X8), +BVTP	
18	1-590-578-11	WIRE, FLAT TYPE (19 CORE)	
19	1-590-576-11	WIRE, FLAT TYPE (11 CORE)	
20	3-704-366-01	SCREW (CASE) (M3X8)	
* 21	4-955-759-11	CASE	
22	X-4941-228-1	FOOT ASSY	
23	4-957-577-01	SCREW PTP WH (2.6X8) (DIA. 10)	
* 24	1-646-477-11	H.P BOARD	
* 25	4-930-783-11	BUTTON (PO) (POWER)	
26	3-701-748-00	CLAMP	
* 27	4-942-301-01	HOLDER, FL TUBE	
S901	1-572-267-61	SWITCH, PUSH (AC POWER)(1 KEY)	

5-2. BACK PANEL SECTION

▲ : TUNER BOARD


※1, 3
※2
A17, ※4
64
66
58
# 2
# 2
# 1
not supplied
60
A17 MODEL
# 1
59
59
62
# 1
VS1301
T1301
56
F1303
F1304
EXCEPT
※4
IC1201
63
# 1
61
65
F1301
57
55
54
65
F1302
# 1
# 1
F1305
# 1
F1306
53
65
56
# 1
▲
# 1
not supplied
53
not supplied
Q1302
52
51 (including ▲)

• CAUTION
Be sure to use insulation sheet (⚠4-959-364-01) when replacing power transformer because it is safely related part.

Ref. No.	Part No.	Description	Remarks
* 51	A-4356-678-A	MAIN BOARD, COMPLETE (D159:AEP)	
* 51	A-4356-690-A	MAIN BOARD, COMPLETE (D159:UK)	
* 51	A-4356-699-A	MAIN BOARD, COMPLETE (D159:US, CND)	
* 51	A-4356-705-A	MAIN BOARD, COMPLETE (A17)	
* 51	A-4356-715-A	MAIN BOARD, COMPLETE (D159:IT)	
* 51	A-4356-922-A	MAIN BOARD, COMPLETE (D159:AE2)	
* 51	A-4365-506-A	MAIN BOARD, COMPLETE (D159:G)	
* 52	4-924-098-31	HOLDER, PC BOARD	
* 53	4-942-204-01	PLATE, GROUND	
* 54	3-703-244-00	BUSHING (2104), CORD (A17:AUS, D159)	
54	3-703-571-11	BUSHING (S) (4516), CORD (A17:E, PX)	
* 55	1-646-484-11	SURROUND BOARD (A17/D159:AEP, AE2, UK, IT)	
* 56	3-701-946-26	LABEL (4A125V), FUSE (D159:US, CND)	
* 57	1-646-478-11	POWER SUPPLY (B) BOARD	
* 58	1-646-481-11	POWER SUPPLY BOARD	
59	3-564-542-00	WASHER, FIBER	
* 60	A-4356-616-A	POWER AMPLIFIER BOARD, COMPLETE (A17)	
* 60	A-4356-677-A	POWER AMPLIFIER BOARD, COMPLETE (D159:AEP, AE2)	
* 60	A-4356-689-A	POWER AMPLIFIER BOARD, COMPLETE (D159:UK)	
* 60	A-4356-698-A	POWER AMPLIFIER BOARD, COMPLETE (D159:US, CND)	
* 60	A-4356-718-A	POWER AMPLIFIER BOARD, COMPLETE (D159:G, IT)	
61	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
* 62	4-949-235-01	HOOK (A17:E, PX/D159:US, CND, AEP, AE2, IT)	
* 63	4-955-760-11	PANEL, BACK (D159:AEP)	
* 63	4-955-760-21	PANEL, BACK (D159:UK)	
* 63	4-955-760-31	PANEL, BACK (D159:IT)	
* 63	4-955-760-51	PANEL, BACK (D159:US)	
* 63	4-955-760-61	PANEL, BACK (D159:CND)	
* 63	4-955-760-71	PANEL, BACK (D159:AE2)	
* 63	4-955-760-81	PANEL, BACK (D159:AE2)	
* 63	4-955-760-91	PANEL, BACK (A17:E)	
* 63	4-959-298-01	PANEL, BACK (A17:AUS)	
* 63	4-959-298-11	PANEL, BACK (A17:PX)	
* 63	4-961-575-01	PANEL, BACK (D159:G)	
⚠64	1-575-651-11	CORD, POWER (D159:AEP, AE2, IT, G)	
⚠64	1-575-653-11	CORD, POWER (A17:E, PX)	
⚠64	1-690-609-11	CORD, POWER (D159:US, CND)	
⚠64	1-696-570-21	CORD, POWER (D159:UK)	
⚠64	1-696-848-21	CORD, POWER (A17:AUS)	
65	1-533-217-31	HOLDER, FUSE	
⚠66	4-959-364-01	SPACER	
⚠F1301	1-532-350-00	FUSE 4A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1301	1-576-108-11	FUSE 4A (D159:US, CND)	
⚠F1302	1-576-108-11	FUSE 4A (D159:US, CND)	
⚠F1302	1-532-350-00	FUSE 4A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1303	1-532-203-00	FUSE 2A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1303	1-576-104-11	FUSE (D159:US, CND)	
⚠F1304	1-532-203-00	FUSE 2A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1304	1-576-104-11	FUSE (D159:US, CND)	
⚠F1305	1-532-286-00	FUSE 2.5A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1305	1-576-105-11	FUSE (D159:US, CND)	
⚠F1306	1-532-286-00	FUSE 2.5A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1306	1-576-105-11	FUSE (D159:US, CND)	
IC1201	8-749-900-96	IC STK-4142MK2 (A17, *4)	
IC1201	8-749-900-13	IC STK-4132MK2 (*1, 2, 3)	
Q1302	8-729-209-15	TRANSISTOR 2SD2012	
⚠T1301	1-423-434-11	TRANSFORMER, POWER (D159:AEP, AE2, UK, IT, G)	
⚠T1301	1-423-436-11	TRANSFORMER, POWER (A17)	
⚠VS1301	1-570-046-21	SWITCH, VOLTAGE CHANGE (A17)	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Model name and destination shown by ∗1 to ∗4.

∗1 : A27 : AEP, AE2
∗2 : A27 : UK
∗3 : D159 : Italian (IT), German (G)
∗4 : D159 : US, Canadian

AE2 : AEP (with in PHONO MODEL)

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- −XX, −X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL : metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- CAPACITORS :
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description	Remarks
*	A-4356-705-A	MAIN BOARD, COMPLETE (A17) ***************************	
*	A-4356-678-A	MAIN BOARD, COMPLETE (D159:AEP) *********************************	
*	A-4356-922-A	MAIN BOARD, COMPLETE (D159:AE2) *********************************	
*	A-4356-690-A	MAIN BOARD, COMPLETE (*2) **************************	
*	A-4356-715-A	MAIN BOARD, COMPLETE (*3) **************************	
*	A-4356-699-A	MAIN BOARD, COMPLETE (*4) **************************	
*	A-4365-506-A	MAIN BOARD, COMPLETE (D159:G) ******************************	
*	1-646-484-11	SURROUND BOARD (A17*1, *2, *3) ****************************	
	1-533-217-31	HOLDER, FUSE	
*	4-942-204-01	PLATE, GROUND	
		< CAPACITOR >	
C302	1-124-477-11	ELECT 47uF 20% 25V	
C303	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C305	1-161-379-00	CERAMIC 0.01uF 20% 25V	(*3)
C306	1-161-379-00	CERAMIC 0.01uF 20% 25V	(*3)
C307	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C308	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C309	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C310	1-124-477-11	ELECT 47uF 20% 25V	
C311	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C312	1-101-006-00	CERAMIC 0.047uF 50V	
C313	1-123-382-00	ELECT 3.3uF 20% 100V	
C314	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C315	1-161-329-00	CERAMIC 0.0068uF 30% 16V	
C316	1-162-282-31	CERAMIC 100PF 10% 50V	
C317	1-162-292-31	CERAMIC 680PF 10% 50V	(*3)
C318	1-124-903-11	ELECT 1uF 20% 50V	
C320	1-124-903-11	ELECT 1uF 20% 50V	
C321	1-124-902-00	ELECT 0.47uF 20% 50V	
C322	1-124-463-00	ELECT 0.1uF 20% 50V	
C323	1-161-329-00	CERAMIC 0.0068uF 30% 16V	(A17, *1, 2, 3)
C323	1-161-379-00	CERAMIC 0.01uF 20% 25V	(*4)
C324	1-161-329-00	CERAMIC 0.0068uF 30% 16V	(A17, *1, 2, 3)
C324	1-161-379-00	CERAMIC 0.01uF 20% 25V	(*4)
C325	1-124-477-11	ELECT 47uF 20% 25V	
C326	1-124-907-11	ELECT 10uF 20% 50V	
C327	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C328	1-124-463-00	ELECT 0.1uF 20% 50V	
C329	1-124-927-11	ELECT 4.7uF 20% 100V	
C330	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C331	1-126-176-11	ELECT 220uF 20% 10V	
C332	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C335	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C336	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C339	1-162-210-31	CERAMIC 30PF 5% 50V	(*1, 2)
C341	1-123-382-00	ELECT 3.3uF 20% 100V	
C342	1-123-382-00	ELECT 3.3uF 20% 100V	
C343	1-123-382-00	ELECT 3.3uF 20% 100V	
C344	1-123-382-00	ELECT 3.3uF 20% 100V	
C345	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C346	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C351	1-161-494-00	CERAMIC 0.022uF 25V	(*1, 2)
C352	1-102-120-00	CERAMIC 0.0018uF 10% 50V	(*1, 2)
C353	1-161-374-11	CERAMIC 0.0015uF 20% 50V	(*1, 2)
C354	1-161-494-00	CERAMIC 0.022uF 25V	(*1, 2)
C361	1-164-098-11	CERAMIC 0.047uF 12V	
C362	1-161-494-00	CERAMIC 0.022uF 25V	
C363	1-164-159-11	CERAMIC 0.1uF 50V	(*1, 2)
C364	1-161-494-00	CERAMIC 0.022uF 25V	(*1, 2)
C371	1-162-198-31	CERAMIC 8.2PF 10% 50V	(A17, *4, 3)
C371	1-162-196-31	CERAMIC 5.6PF 10% 50V	(*1, 2)
C373	1-162-288-31	CERAMIC 330PF 10% 50V	(*4, 1)
C501	1-102-961-00	CERAMIC 27PF 5% 50V	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remarks
C507	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C521	1-124-925-11	ELECT 2.2uF 20% 100V	
C522	1-124-463-00	ELECT 0.1uF 20% 50V	
C523	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C524	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C525	1-124-477-11	ELECT 47uF 20% 25V	
C531	1-136-173-00	FILM 0.47uF 5% 50V	(*1, 2)
C532	1-161-494-00	CERAMIC 0.022uF 25V	(*1, 2)
C533	1-124-463-00	ELECT 0.1uF 20% 50V	(*1, 2)
C1001	1-124-925-11	ELECT 2.2uF 20% 100V	
C1002	1-162-282-31	CERAMIC 100PF 10% 50V	
C1003	1-162-282-31	CERAMIC 100PF 10% 50V	
C1004	1-124-477-11	ELECT 47uF 20% 25V	
C1005	1-161-377-00	CERAMIC 0.0047uF 20% 16V	
C1006	1-161-374-11	CERAMIC 0.0015uF 20% 50V	
C1007	1-124-464-11	ELECT 0.22uF 20% 50V	
C1008	1-124-477-11	ELECT 47uF 20% 25V	
C1010	1-124-477-11	ELECT 47uF 20% 25V	
C1012	1-124-925-11	ELECT 2.2uF 20% 100V	
C1013	1-162-290-31	CERAMIC 470PF 10% 50V	
C1014	1-161-494-00	CERAMIC 0.022uF 25V	
C1025	1-162-286-31	CERAMIC 220PF 10% 50V	
C1026	1-162-286-31	CERAMIC 220PF 10% 50V	
C1051	1-124-925-11	ELECT 2.2uF 20% 100V	
C1052	1-162-282-31	CERAMIC 100PF 10% 50V	
C1053	1-162-282-31	CERAMIC 100PF 10% 50V	
C1054	1-124-477-11	ELECT 47uF 20% 25V	
C1055	1-161-377-00	CERAMIC 0.0047uF 20% 16V	
C1056	1-161-374-11	CERAMIC 0.0015uF 20% 50V	
C1057	1-124-464-11	ELECT 0.22uF 20% 50V	
C1058	1-124-477-11	ELECT 47uF 20% 25V	
C1060	1-124-477-11	ELECT 47uF 20% 25V	
C1062	1-124-925-11	ELECT 2.2uF 20% 100V	
C1063	1-162-290-31	CERAMIC 470PF 10% 50V	
C1064	1-161-494-00	CERAMIC 0.022uF 25V	
C1075	1-162-286-31	CERAMIC 220PF 10% 50V	
C1076	1-162-286-31	CERAMIC 220PF 10% 50V	
C1212	1-124-916-11	ELECT 22uF 20% 63V	
C1213	1-124-916-11	ELECT 22uF 20% 63V	
C1221	1-126-101-11	ELECT 100uF 20% 16V	
C1222	1-126-176-11	ELECT 220uF 20% 10V	
C1223	1-126-176-11	ELECT 220uF 20% 10V	
C1245	1-101-006-00	CERAMIC 0.047uF 50V	(*3)
C1246	1-101-006-00	CERAMIC 0.047uF 50V	(*3)
C1247	1-101-006-00	CERAMIC 0.047uF 50V	(*3)
C1248	1-101-006-00	CERAMIC 0.047uF 50V	(*3)
C1249	1-161-494-00	CERAMIC 0.022uF 25V	(*3)
C1250	1-161-494-00	CERAMIC 0.022uF 25V	(*3)
C1262	1-124-916-11	ELECT 22uF 20% 63V	
C1263	1-124-916-11	ELECT 22uF 20% 63V	

Ref. No.	Part No.	Description	Remarks
C1302	1-102-394-11	CERAMIC 0.01uF 250V	
C1304	1-126-224-11	ELECT 4700uF 20% 42V	(A17*1, 2, 3)
C1304	1-126-413-11	ELECT 3300uF 20% 35V	(*4)
C1305	1-126-224-11	ELECT 4700uF 20% 42V	(A17*1, 2, 3)
C1305	1-126-413-11	ELECT 3300uF 20% 35V	(*4)
C1306	1-124-477-11	ELECT 47uF 20% 25V	
C1308	1-126-101-11	ELECT 100uF 20% 16V	
C1309	1-126-101-11	ELECT 100uF 20% 16V	
C1312	1-124-563-11	ELECT 2200uF 20% 25V	
C1313	1-124-563-11	ELECT 2200uF 20% 25V	
C1319	1-124-463-00	ELECT 0.1uF 20% 50V	
C1320	1-124-907-11	ELECT 10uF 20% 50V	
C1321	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C1322	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C1324	1-124-907-11	ELECT 10uF 20% 50V	
C1326	1-124-907-11	ELECT 10uF 20% 50V	
C1294	1-161-494-00	CERAMIC 0.022uF 25V	(*3)
C1330	1-126-101-11	ELECT 100uF 20% 16V	
C1331	1-102-394-11	CERAMIC 0.01uF 250V	
C1335	1-124-907-11	ELECT 10uF 20% 50V	(D159:AEP, *2)
C1336	1-126-101-11	ELECT 100uF 20% 16V	(A17, D159:AEP, *2)
C1341	1-124-907-11	ELECT 10uF 20% 50V	
C1346	1-124-925-11	ELECT 2.2uF 20% 100V	
C1351	1-124-122-11	ELECT 100uF 20% 50V	
C1352	1-126-105-11	ELECT 1000uF 20% 35V	
C1353	1-136-165-00	FILM 0.1uF 5% 50V	
C1354	1-136-165-00	FILM 0.1uF 5% 50V	
C1360	1-161-494-00	CERAMIC 0.022uF 25V	
C1361	1-124-122-11	ELECT 100uF 20% 50V	

< FILTER >

Ref. No.	Part No.	Description	Remarks
CF301	1-577-070-81	FILTER, CERAMIC	(A17*1, 2, 4)
CF301	1-567-389-11	FILTER, CERAMIC	(*3)
CF303	1-577-070-81	FILTER, CERAMIC	(A17*1, 2, 4)
CF303	1-567-389-11	FILTER, CERAMIC	(*3)
CF304	1-577-075-11	OSCILLATOR, CERAMIC	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN212	1-564-506-11	PLUG, CONNECTOR 3P	
CN302	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P	
* CN501	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN1001	1-580-912-11	JACK, PIN 4P	
* CN1006	1-568-955-11	PIN, CONNECTOR 6P	(17)
CN1201	1-537-494-11	TERMINAL BOARD (SPEAKER)	(17, *1, 2, 4)
CN1201	1-537-481-11	TERMINAL BOARD (SPEAKER)	(3)
* CN1203	1-564-508-11	PLUG, CONNECTOR 5P	
* CN1204	1-564-510-11	PLUG, CONNECTOR 7P	
CN1205	1-506-468-11	PIN, CONNECTOR 3P	

MAIN SURROUND

Ref. No.	Part No.	Description	Remarks
CN1201	1-537-494-11	TERMINAL BOARD (SPEAKER)	(17, *1, 2, 4)
CN1201	1-537-481-11	TERMINAL BOARD (SPEAKER)	(3)
* CN1203	1-564-508-11	PLUG, CONNECTOR 5P	
* CN1204	1-564-510-11	PLUG, CONNECTOR 7P	
CN1205	1-506-468-11	PIN, CONNECTOR 3P	
CN1206	1-568-802-11	SOCKET, CONNECTOR 19P	
* CN1241	1-565-291-11	SOCKET, CONNECTOR 13P (SYSTEM CONTROL)	
CN1243	1-695-094-11	SOCKET, CONNECTOR 11P	
* CN1301	1-566-210-11	PIN, CONNECTOR 3P (POWER SOURCE)	(A17, D159:AEP, *2)
CN1302	1-506-469-11	PIN, CONNECTOR 4P	
* TP1	1-560-060-00	PIN, CONNECTOR 2P	

< DIODE >

Ref. No.	Part No.	Description	Remarks
D351	8-719-987-63	DIODE 1N4148M	(*1, 2)
D1202	8-719-987-63	DIODE 1N4148M	
D1203	8-719-987-63	DIODE 1N4148M	
D1204	8-719-987-63	DIODE 1N4148M	
D1205	8-719-933-48	DIODE HZS7B3L	
D1302	8-719-312-09	DIODE RBA-402	
D1303	8-719-200-82	DIODE 11ES2	
D1304	8-719-200-82	DIODE 11ES2	
D1305	8-719-200-82	DIODE 11ES2	
D1306	8-719-200-82	DIODE 11ES2	
D1316	8-719-200-82	DIODE 11ES2	
D1318	8-719-200-82	DIODE 11ES2	
D1319	8-719-200-82	DIODE 11ES2	
D1321	8-719-987-63	DIODE 1N4148M	
D1323	8-719-987-63	DIODE 1N4148M	
D1324	8-719-987-63	DIODE 1N4148M	
D1341	8-719-001-76	DIODE UZL-12M3	
D1368	8-719-200-82	DIODE 11ES2	
D1369	8-719-200-82	DIODE 11ES2	

< FRONTEND >

Ref. No.	Part No.	Description	Remarks
FE301	1-693-090-21	FRONT END (FM) (2 GANG)	(A17, *1)
FE301	1-465-006-11	FRONT END (FM) (2 GANG)	(*2, 4)
FE301	1-463-857-21	FRONT END (FM)	(*3)
FE351	1-236-463-11	ENCAPSULATED COMPONENT	(*1, 2)
FE352	1-239-260-11	ENCAPSULATED COMPONENT	(A17, *3, 4)
FE352	1-239-261-12	ENCAPSULATED COMPONENT	(*1, 2)

< IC >

Ref. No.	Part No.	Description	Remarks
IC301	8-759-821-45	IC LA1851N	
IC501	8-759-820-91	IC LC7218	
IC601	8-759-096-99	IC uPD75212ACW-A47	
IC1001	8-759-634-51	IC M5218AP	
IC1002	8-759-000-48	IC MC14052BCP	
IC1003	8-759-634-51	IC M5218AP	
IC1202	8-759-111-68	IC uPC1237HA	
IC1302	8-759-231-53	IC M5F7805	
IC1303	8-759-071-48	IC M5F7807L	
IC1304	8-759-604-95	IC M5F79M07	
IC1305	8-759-820-13	IC L78MR06	
IC1306	8-759-231-58	IC M5F7812L	(A17, D159:AEP, *2)

< IFT >

Ref. No.	Part No.	Description	Remarks
IFT301	1-404-713-11	TRANSFORMER, IF	

< JACK >

Ref. No.	Part No.	Description	Remarks
J1202	1-569-130-11	JACK, PIN 2P (SURROUND SPEAKER)	(17, *1, 2, 3)

< COIL >

Ref. No.	Part No.	Description	Remarks
L301	1-410-686-11	INDUCTOR 1mH	(A17, *4)
L301	1-407-500-00	INDUCTOR 4.7mH	(*1, 2, 3)
L351	1-410-525-11	INDUCTOR 220uH	(*1, 2)
L1301	1-408-117-00	INDUCTOR 10uH	(D159:G)
L1302	1-408-117-00	INDUCTOR 10uH	(D159:G)

< FILTER >

Ref. No.	Part No.	Description	Remarks
LPF301	1-235-164-00	FILTER, LOW PASS	
LPF302	1-235-164-00	FILTER, LOW PASS	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q301	8-729-230-99	TRANSISTOR 2SC2669-OY	(*3)
Q302	8-729-230-99	TRANSISTOR 2SC2669-OY	(*3)
Q303	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q304	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-900-61	TRANSISTOR DTA114ES	
Q307	8-729-900-80	TRANSISTOR DTC114ES	
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q309	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q351	8-729-900-80	TRANSISTOR DTC114ES	(*1, 2)
Q352	8-729-119-78	TRANSISTOR 2SC2785-HFE	(*1, 2)
Q353	8-729-119-76	TRANSISTOR 2SA1175-HFE	(*1, 2)
Q354	8-729-900-80	TRANSISTOR DTC114ES	(*1, 2)
Q355	8-729-900-80	TRANSISTOR DTC114ES	(*1, 2)
Q356	8-729-900-80	TRANSISTOR DTC114ES	(*1, 2)
Q501	8-729-900-80	TRANSISTOR DTC114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q521	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q522	8-729-201-84	TRANSISTOR 2SC3112-B	(A17, *4)
Q522	8-729-141-26	TRANSISTOR 2SC3622A-LK	(*1, 2, 3)
Q531	8-729-202-67	TRANSISTOR 2SK246-GR3	(*1, 2)
Q532	8-729-141-26	TRANSISTOR 2SC3622A-LK	(*1, 2)
Q1204	8-729-900-63	TRANSISTOR DTA124ES	
Q1302	8-729-209-15	TRANSISTOR 2SD2012	

Ref. No.	Part No.	Description	Remarks
R304	1-249-432-11	CARBON 18K 5% 1/4W	(*3)
R305	1-249-411-11	CARBON 330 5% 1/4W	(*3)
R306	1-249-434-11	CARBON 27K 5% 1/4W	(*3)
R307	1-249-414-11	CARBON 560 5% 1/4W	F (*3)
R308	1-249-411-11	CARBON 330 5% 1/4W	
R309	1-249-432-11	CARBON 18K 5% 1/4W	
R310	1-249-411-11	CARBON 330 5% 1/4W	
R311	1-249-434-11	CARBON 27K 5% 1/4W	
R312	1-249-414-11	CARBON 560 5% 1/4W	F (A17, *1, 2, 4)
R312	1-249-416-11	CARBON 820 5% 1/4W	F (*3)
R313	1-249-405-11	CARBON 100 5% 1/4W	F
R314	1-249-437-11	CARBON 47K 5% 1/4W	(*3)
R315	1-249-404-00	CARBON 82 5% 1/4W	
R316	1-249-429-11	CARBON 10K 5% 1/4W	
R317	1-249-417-11	CARBON 1K 5% 1/4W	F
R318	1-249-435-11	CARBON 33K 5% 1/4W	
R319	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R320	1-249-432-11	CARBON 18K 5% 1/4W	
R321	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R322	1-249-429-11	CARBON 10K 5% 1/4W	
R323	1-249-418-11	CARBON 1.2K 5% 1/4W	F (A17*1, 2, 4)
R323	1-249-423-11	CARBON 3.3K 5% 1/4W	F (*3)
R324	1-249-429-11	CARBON 10K 5% 1/4W	
R325	1-249-429-11	CARBON 10K 5% 1/4W	
R326	1-249-409-11	CARBON 220 5% 1/4W	F
R327	1-249-437-11	CARBON 47K 5% 1/4W	
R328	1-249-437-11	CARBON 47K 5% 1/4W	
R331	1-247-899-11	CARBON 680K 5% 1/4W	
R332	1-247-899-11	CARBON 680K 5% 1/4W	
R333	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R334	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R335	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R336	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R337	1-249-426-11	CARBON 5.6K 5% 1/4W	
R338	1-249-426-11	CARBON 5.6K 5% 1/4W	
R351	1-249-433-11	CARBON 22K 5% 1/4W	(*1, 2)
R352	1-249-437-11	CARBON 47K 5% 1/4W	(*1, 2)
R353	1-247-903-00	CARBON 1M 5% 1/4W	(*1, 2)
R354	1-249-441-11	CARBON 100K 5% 1/4W	(*1, 2)
R355	1-249-433-11	CARBON 22K 5% 1/4W	(*1, 2)
R356	1-249-421-11	CARBON 2.2K 5% 1/4W	F (*1, 2)
R361	1-249-437-11	CARBON 47K 5% 1/4W	
R362	1-249-437-11	CARBON 47K 5% 1/4W	
R363	1-249-425-11	CARBON 4.7K 5% 1/4W	F (*1, 2)
R364	1-249-425-11	CARBON 4.7K 5% 1/4W	F (*1, 2)
R365	1-249-429-11	CARBON 10K 5% 1/4W	(*1, 2, 3)

Ref. No.	Part No.	Description	Remarks
R366	1-249-413-11	CARBON 470 5% 1/4W	F (*1, 2)
R367	1-249-434-11	CARBON 27K 5% 1/4W	(*1, 2)
R368	1-249-433-11	CARBON 22K 5% 1/4W	(*1, 2)
R370	1-249-423-11	CARBON 3.3K 5% 1/4W	F (*3)
R501	1-249-417-11	CARBON 1K 5% 1/4W	F
R502	1-249-417-11	CARBON 1K 5% 1/4W	F
R503	1-249-417-11	CARBON 1K 5% 1/4W	F
R504	1-249-417-11	CARBON 1K 5% 1/4W	F
R505	1-249-429-11	CARBON 10K 5% 1/4W	
R506	1-249-417-11	CARBON 1K 5% 1/4W	F
R510	1-249-401-11	CARBON 47 5% 1/4W	F
R511	1-249-429-11	CARBON 10K 5% 1/4W	
R512	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R513	1-249-417-11	CARBON 1K 5% 1/4W	F
R514	1-249-429-11	CARBON 10K 5% 1/4W	
R515	1-249-417-11	CARBON 1K 5% 1/4W	F
R521	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R522	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R523	1-249-414-11	CARBON 560 5% 1/4W	F
R524	1-249-417-11	CARBON 1K 5% 1/4W	F
R525	1-249-410-11	CARBON 270 5% 1/4W	F
R526	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R527	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R528	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R529	1-249-405-11	CARBON 100 5% 1/4W	F
R530	1-249-405-11	CARBON 100 5% 1/4W	F
R531	1-249-423-11	CARBON 3.3K 5% 1/4W	F (*1, 2)
R532	1-249-433-11	CARBON 22K 5% 1/4W	(*1, 2)
R533	1-249-414-11	CARBON 560 5% 1/4W	F (*1, 2)
R534	1-249-417-11	CARBON 1K 5% 1/4W	F (*1, 2)
R535	1-249-410-11	CARBON 270 5% 1/4W	F (*1, 2)
R536	1-249-421-11	CARBON 2.2K 5% 1/4W	F (*1, 2)
R537	1-249-425-11	CARBON 4.7K 5% 1/4W	F (*1, 2)
R538	1-249-405-11	CARBON 100 5% 1/4W	F (*1, 2)
R631	1-249-441-11	CARBON 100K 5% 1/4W	
R1001	1-249-417-11	CARBON 1K 5% 1/4W	F
R1002	1-249-441-11	CARBON 100K 5% 1/4W	
R1003	1-249-416-11	CARBON 820 5% 1/4W	F
R1004	1-247-897-11	CARBON 560K 5% 1/4W	
R1005	1-249-437-11	CARBON 47K 5% 1/4W	
R1006	1-249-409-11	CARBON 220 5% 1/4W	F
R1007	1-249-441-11	CARBON 100K 5% 1/4W	
R1008	1-249-409-11	CARBON 220 5% 1/4W	F
R1010	1-249-417-11	CARBON 1K 5% 1/4W	F (A17, *1, 2, 4)
R1012	1-249-417-11	CARBON 1K 5% 1/4W	F
R1013	1-249-441-11	CARBON 100K 5% 1/4W	(A17, *1, 2, 4)

Ref. No.	Part No.	Description	Remarks
R1012	1-249-417-11	CARBON 1K 5% 1/4W	F
R1013	1-249-441-11	CARBON 100K 5% 1/4W	(A17, *1, 2, 4)
R1014	1-249-437-11	CARBON 47K 5% 1/4W	
R1015	1-249-437-11	CARBON 47K 5% 1/4W	
R1021	1-249-437-11	CARBON 47K 5% 1/4W	
R1022	1-249-432-11	CARBON 18K 5% 1/4W	(17)
R1023	1-249-437-11	CARBON 47K 5% 1/4W	
R1024	1-249-417-11	CARBON 1K 5% 1/4W	F
R1029	1-249-433-11	CARBON 22K 5% 1/4W	
R1035	1-249-415-11	CARBON 680 5% 1/4W	F
R1037	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R1051	1-249-417-11	CARBON 1K 5% 1/4W	F
R1052	1-249-441-11	CARBON 100K 5% 1/4W	
R1053	1-249-416-11	CARBON 820 5% 1/4W	F
R1054	1-247-897-11	CARBON 560K 5% 1/4W	
R1055	1-249-437-11	CARBON 47K 5% 1/4W	
R1056	1-249-409-11	CARBON 220 5% 1/4W	F (*1, 2, 4)
R1058	1-249-409-11	CARBON 220 5% 1/4W	F (*1, 2, 4)
R1065	1-249-415-11	CARBON 680 5% 1/4W	F
R1071	1-249-437-11	CARBON 47K 5% 1/4W	
R1072	1-249-432-11	CARBON 18K 5% 1/4W	(A17)
R1073	1-249-437-11	CARBON 47K 5% 1/4W	
R1074	1-249-417-11	CARBON 1K 5% 1/4W	F
R1222	1-249-415-11	CARBON 680 5% 1/4W	F
R1223	1-249-415-11	CARBON 680 5% 1/4W	F
R1226	1-215-890-11	METAL OXIDE 470 5% 2W	F (A17)
R1226	1-215-887-00	METAL OXIDE 150 5% 2W	F
R1233	1-249-432-11	CARBON 18K 5% 1/4W	
R1234	1-249-432-11	CARBON 18K 5% 1/4W	
R1235	1-249-437-11	CARBON 47K 5% 1/4W	
R1236	1-249-441-11	CARBON 100K 5% 1/4W	
R1237	1-249-429-11	CARBON 10K 5% 1/4W	
R1240	1-249-438-11	CARBON 56K 5% 1/4W	
R1241	1-249-385-11	CARBON 2.2 5% 1/6W	F (*3)
R1242	1-249-385-11	CARBON 2.2 5% 1/6W	F (*3)
R1243	1-249-385-11	CARBON 2.2 5% 1/6W	F (*3)
R1244	1-249-385-11	CARBON 2.2 5% 1/6W	F (*3)
R1272	1-249-415-11	CARBON 680 5% 1/4W	F
R1273	1-249-415-11	CARBON 680 5% 1/4W	F
R1290	1-249-437-11	CARBON 47K 5% 1/4W	
R1301	1-249-429-11	CARBON 10K 5% 1/4W	
R1302	1-249-429-11	CARBON 10K 5% 1/4W	
R1321	1-249-417-11	CARBON 1K 5% 1/4W	F
R1322	1-249-429-11	CARBON 10K 5% 1/4W	
R1345	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R1346	1-249-425-11	CARBON 4.7K 5% 1/4W	F (AEP, *2)

Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV301	1-238-601-11	RES, ADJ, CARBON 22K	
RV302	1-238-601-11	RES, ADJ, CARBON 22K	
		< RELAY >	
RY1201	1-515-533-11	RELAY	
RY1201	1-515-920-11	RELAY (24V)	
		< TRANSFORMER >	
T301	1-404-807-11	TRANSFORMER, DISCRIMINATOR	
		< TERMINAL >	
* TM301	1-537-264-11	TERMINAL BOARD (A17, *2, 4)	
* TM301	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL) (*1, 3)	
		< TRANSFORMER >	
T302	1-235-126-00	ENCAPSULATED COMPONENT (*3)	
		< VIBRATOR >	
XT501	1-577-126-21	VIBRATOR, CRYSTAL 7.2MHz	
XT501	1-579-383-11	VIBRATOR, CRYSTAL 7.2MHz	

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Ref. No.	Part No.	Description	Remarks
*	A-4356-702-A	PANEL BOARD, COMPLETE (A17)	
		***************************	
*	A-4356-667-A	PANEL BOARD, COMPLETE (*1)	
		**************************	
*	A-4356-679-A	PANEL BOARD, COMPLETE (*2)	
		**************************	
*	A-4356-711-A	PANEL BOARD, COMPLETE (*3)	
		**************************	
*	A-4356-691-A	PANEL BOARD, COMPLETE (*4)	
		**************************	
*	A-4365-503-A	PANEL BOARD, COMPLETE (D159:G)	
		******************************	
*	1-646-477-11	H.P BOARD	
		*********	
*	1-646-478-11	POWER SUPPLY (B) BOARD	
		**********************	
*	1-646-479-11	MIC BOARD (A17)	
		***************	
*	1-646-481-11	POWER SUPPLY BOARD	
		******************	
*	1-646-497-11	VR BOARD	
		********	
	1-533-217-31	HOLDER, FUSE	
*	1-535-141-00	BASE POST 22MM (10MM P*3CH) 4P (A17)	
*	4-942-301-01	HOLDER, FL TUBE	

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C603	1-136-169-00	FILM	0.22uF	5%	50V
C604	1-164-159-11	CERAMIC	0.1uF		50V
C605	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C606	1-164-159-11	CERAMIC	0.1uF		50V
C607	1-124-907-11	ELECT	10uF	20%	50V
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V
C609	1-161-379-00	CERAMIC	0.01uF	20%	25V
C610	1-162-286-31	CERAMIC	220PF	10%	50V
C650	1-124-907-11	ELECT	10uF	20%	50V
C1101	1-124-257-00	ELECT	2.2uF	20%	50V
C1102	1-124-589-11	ELECT	47uF	20%	16V
C1103	1-162-282-31	CERAMIC	100PF	10%	50V
C1104	1-124-257-00	ELECT	2.2uF	20%	50V
C1105	1-124-464-11	ELECT	0.22uF	20%	50V
C1106	1-136-161-00	FILM	0.047uF	5%	50V
C1107	1-136-155-00	FILM	0.015uF	5%	50V
C1108	1-136-155-00	FILM	0.015uF	5%	50V
C1109	1-137-437-11	FILM	0.0056uF	5%	50V
C1110	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1111	1-136-155-00	FILM	0.015uF	5%	50V
C1112	1-136-157-00	FILM	0.022uF	5%	50V
C1113	1-136-153-00	FILM	0.01uF	5%	50V
C1114	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1115	1-124-257-00	ELECT	2.2uF	20%	50V
C1120	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1121	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1123	1-162-286-31	CERAMIC	220PF	10%	50V
C1131	1-162-215-31	CERAMIC	47PF	5%	50V
C1132	1-162-215-31	CERAMIC	47PF	5%	50V
C1151	1-124-257-00	ELECT	2.2uF	20%	50V
C1152	1-124-589-11	ELECT	47uF	20%	16V
C1153	1-162-282-31	CERAMIC	100PF	10%	50V
C1154	1-124-257-00	ELECT	2.2uF	20%	50V
C1155	1-124-464-11	ELECT	0.22uF	20%	50V
C1156	1-136-161-00	FILM	0.047uF	5%	50V
C1157	1-136-155-00	FILM	0.015uF	5%	50V
C1158	1-136-155-00	FILM	0.015uF	5%	50V
C1159	1-137-437-11	FILM	0.0056uF	5%	50V
C1160	1-161-327-00	CERAMIC	0.0033uF	20%	16V
C1161	1-136-155-00	FILM	0.015uF	5%	50V
C1162	1-136-157-00	FILM	0.022uF	5%	50V
C1163	1-136-153-00	FILM	0.01uF	5%	50V
C1164	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C1165	1-124-257-00	ELECT	2.2uF	20%	50V
C1173	1-162-286-31	CERAMIC	220PF	10%	50V

Ref. No.	Part No.	Description			Remarks
C1181	1-162-215-31	CERAMIC	47PF	5%	50V
C1182	1-162-215-31	CERAMIC	47PF	5%	50V
C1198	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1237	1-162-282-31	CERAMIC	100PF	10%	50V (*3)
C1238	1-162-282-31	CERAMIC	100PF	10%	50V (*3)
C1301	1-161-744-00	CERAMIC	0.01uF		400V
C1314	1-124-122-11	ELECT	100uF	20%	50V
C1315	1-124-927-11	ELECT	4.7uF	20%	100V
C1316	1-124-910-11	ELECT	47uF	20%	50V
C1348	1-164-159-11	CERAMIC	0.1uF		50V (*1, 3, 4)
C1362	1-124-916-11	ELECT	22uF	20%	63V
C1601	1-124-925-11	ELECT	2.2uF	20%	100V (A17)
C1602	1-124-463-00	ELECT	0.1uF	20%	50V (A17)
C1603	1-124-925-11	ELECT	2.2uF	20%	100V (A17)
C1604	1-162-294-31	CERAMIC	0.001uF	10%	50V (A17)
C1605	1-162-215-31	CERAMIC	47PF	5%	50V (A17)
C1606	1-162-282-31	CERAMIC	100PF	10%	50V (A17)
C1607	1-162-215-31	CERAMIC	47PF	5%	50V (A17)
C1608	1-124-589-11	ELECT	47uF	20%	16V (A17)
C1609	1-124-589-11	ELECT	47uF	20%	16V (A17)
C1610	1-162-282-31	CERAMIC	100PF	10%	50V (A17)

< CONNECTOR >

Ref. No.	Part No.	Description
* CN601	1-568-830-11	SOCKET, CONNECTOR 11P
CN1101	1-568-802-11	SOCKET, CONNECTOR 19P
* CN1301	1-564-321-00	PIN, CONNECTOR 2P
* CN1350	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P

< DIODE >

Ref. No.	Part No.	Description		Remarks
D601	8-719-987-63	DIODE	1N4148M	
D602	8-719-010-26	DIODE	UZ-3.9BSB	
D603	8-719-987-63	DIODE	1N4148M	
D604	8-719-987-63	DIODE	1N4148M	
D605	8-719-987-63	DIODE	1N4148M	
D606	8-719-933-48	DIODE	HZS7B3L	
D611	8-719-987-63	DIODE	1N4148M	
D612	8-719-987-63	DIODE	1N4148M	
D613	8-719-987-63	DIODE	1N4148M	
D614	8-719-987-63	DIODE	1N4148M	
D615	8-719-987-63	DIODE	1N4148M	
D616	8-719-987-63	DIODE	1N4148M	
D622	8-719-987-63	DIODE	1N4148M	(D159:IT, *4)
D623	8-719-987-63	DIODE	1N4148M	(A17, *4)
D625	8-719-987-63	DIODE	1N4148M	

PANEL | H. P | POWER SUPPLY (B) | MIC | POWER SUPPLY | VR

Ref. No.	Part No.	Description	Remarks
D641	8-719-200-82	DIODE 11ES2	
D1130	8-719-301-37	LED SEL2210S-CD	
D1131	8-719-301-37	LED SEL2210S-CD	
D1132	8-719-301-37	LED SEL2210S-CD	
D1133	8-719-301-37	LED SEL2210S-CD	
D1134	8-719-301-37	LED SEL2210S-CD	
D1145	8-719-313-69	DIODE SEL3210S-CD	
D1151	8-719-987-63	DIODE 1N4148M	
D1152	8-719-987-63	DIODE 1N4148M	
D1153	8-719-987-63	DIODE 1N4148M	
D1154	8-719-987-63	DIODE 1N4148M	
D1307	8-719-002-60	DIODE UZL-33L	
D1309	8-719-014-66	DIODE UZP-5.6B	
D1311	8-719-200-82	DIODE 11ES2	
D1370	8-719-200-82	DIODE 11ES2	
		< FLUORESCENT >	
FL601	1-519-732-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC602	8-749-922-36	IC GP1U50XB	
IC1101	8-759-634-51	IC M5218AP	
IC1102	8-759-634-51	IC M5218AP	
IC1103	8-759-820-62	IC LB1639	
IC1104	8-759-916-12	IC TC74HC00P	
IC1601	8-759-634-51	IC M5218AP (A17)	
		< JACK >	
J601	1-691-002-11	JACK, LARGE TYPE (HEADPHONES) (A17)	
J1201	1-691-003-11	JACK, LARGE TYPE (MIC)	
		< COIL >	
L601	1-410-521-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-900-80	TRANSISTOR DTC114ES	
Q603	8-729-900-80	TRANSISTOR DTC114ES	
Q1101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1102	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1121	8-729-900-36	TRANSISTOR DTC124ES	
Q1122	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1136	8-729-900-36	TRANSISTOR DTC124ES	
Q1138	8-729-900-36	TRANSISTOR DTC124ES	
Q1141	8-729-900-63	TRANSISTOR DTA124ES	

Ref. No.	Part No.	Description	Remarks
Q1143	8-729-900-80	TRANSISTOR DTC114ES	
Q1144	8-729-900-80	TRANSISTOR DTC114ES	
Q1145	8-729-900-61	TRANSISTOR DTA114ES	
Q1151	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1152	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1301	8-729-141-83	TRANSISTOR 2SA473	
		< RESISTOR >	
R601	1-249-429-11	CARBON 10K 5% 1/4W	
R602	1-249-429-11	CARBON 10K 5% 1/4W	
R603	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R605	1-249-433-11	CARBON 22K 5% 1/4W	
R606	1-249-433-11	CARBON 22K 5% 1/4W	
R607	1-249-439-11	CARBON 68K 5% 1/4W	
R608	1-249-417-11	CARBON 1K 5% 1/4W	F
R609	1-249-405-11	CARBON 100 5% 1/4W	F
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-249-437-11	CARBON 47K 5% 1/4W	
R612	1-249-417-11	CARBON 1K 5% 1/4W	F
R613	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R614	1-249-393-11	CARBON 10 5% 1/4W	F
R621	1-249-433-11	CARBON 22K 5% 1/4W	
R622	1-249-433-11	CARBON 22K 5% 1/4W	
R623	1-249-433-11	CARBON 22K 5% 1/4W	
R624	1-249-433-11	CARBON 22K 5% 1/4W	
R642	1-249-409-11	CARBON 220 5% 1/4W	F
R643	1-249-417-11	CARBON 1K 5% 1/4W	F
R1101	1-249-441-11	CARBON 100K 5% 1/4W	
R1102	1-249-417-11	CARBON 1K 5% 1/4W	F
R1103	1-249-431-11	CARBON 15K 5% 1/4W	
R1104	1-249-441-11	CARBON 100K 5% 1/4W	
R1105	1-249-433-11	CARBON 22K 5% 1/4W	
R1106	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R1107	1-249-441-11	CARBON 100K 5% 1/4W	
R1108	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R1109	1-249-412-11	CARBON 390 5% 1/4W	F
R1110	1-249-431-11	CARBON 15K 5% 1/4W	
R1111	1-249-439-11	CARBON 68K 5% 1/4W	
R1112	1-249-433-11	CARBON 22K 5% 1/4W	
R1113	1-249-431-11	CARBON 15K 5% 1/4W	
R1114	1-249-429-11	CARBON 10K 5% 1/4W	
R1115	1-249-429-11	CARBON 10K 5% 1/4W	
R1116	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1117	1-247-852-11	CARBON 7.5K 5% 1/4W	
R1118	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R1119	1-249-425-11	CARBON 4.7K 5% 1/4W	F

Ref. No.	Part No.	Description				Remarks
R1120	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1121	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1122	1-247-887-00	CARBON	220K	5%	1/4W	
R1123	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1124	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1125	1-249-433-11	CARBON	22K	5%	1/4W	
R1130	1-249-412-11	CARBON	390	5%	1/4W	F
R1132	1-249-412-11	CARBON	390	5%	1/4W	F
R1133	1-249-412-11	CARBON	390	5%	1/4W	F
R1135	1-249-433-11	CARBON	22K	5%	1/4W	
R1143	1-249-433-11	CARBON	22K	5%	1/4W	
R1145	1-249-412-11	CARBON	390	5%	1/4W	F
R1149	1-249-429-11	CARBON	10K	5%	1/4W	
R1151	1-249-441-11	CARBON	100K	5%	1/4W	
R1152	1-249-417-11	CARBON	1K	5%	1/4W	F
R1154	1-249-441-11	CARBON	100K	5%	1/4W	
R1155	1-249-433-11	CARBON	22K	5%	1/4W	
R1156	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R1157	1-249-441-11	CARBON	100K	5%	1/4W	
R1158	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R1159	1-249-412-11	CARBON	390	5%	1/4W	F
R1160	1-249-431-11	CARBON	15K	5%	1/4W	
R1161	1-249-439-11	CARBON	68K	5%	1/4W	
R1162	1-249-433-11	CARBON	22K	5%	1/4W	
R1163	1-249-431-11	CARBON	15K	5%	1/4W	
R1164	1-249-429-11	CARBON	10K	5%	1/4W	
R1165	1-249-429-11	CARBON	10K	5%	1/4W	
R1166	1-247-852-11	CARBON	7.5K	5%	1/4W	
R1167	1-247-852-11	CARBON	7.5K	5%	1/4W	
R1168	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1169	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1170	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1171	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1172	1-247-887-00	CARBON	220K	5%	1/4W	
R1173	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1174	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1303	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1304	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R1391	1-202-725-00	SOLID	3.3M	10%	1/2W	(*4)
R1601	1-249-429-11	CARBON	10K	5%	1/4W	(A17)
R1602	1-249-417-11	CARBON	1K	5%	1/4W	F (A17)
R1603	1-249-412-11	CARBON	390	5%	1/4W	F (A17)
R1604	1-249-434-11	CARBON	27K	5%	1/4W	(A17)
R1605	1-249-433-11	CARBON	22K	5%	1/4W	(A17)
R1606	1-249-437-11	CARBON	47K	5%	1/4W	(A17)

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remarks
RV1101	1-223-251-11	RES, VAR, CARBON 100K/100K (SURROUND)	
RV1102	1-223-251-11	RES, VAR, CARBON 100K/100K (DBFB)	
RV1103	1-223-289-11	RES, VAR, SLIDE 100K (100Hz)	
RV1104	1-223-289-11	RES, VAR, SLIDE 100K (330Hz)	
RV1105	1-223-289-11	RES, VAR, SLIDE 100K (1KHz)	
RV1106	1-223-289-11	RES, VAR, SLIDE 100K (3.3KHz)	
RV1107	1-223-289-11	RES, VAR, SLIDE 100K (10KHz)	
RV1108	1-223-253-11	RES, VAR, CARBON 100K/100K (BALANCE)	
RV1109	1-223-291-11	RES, VAR, CARBON 100K/100K (VOLUME)	
RV1153	1-223-289-11	RES, VAR, SLIDE 100K (100Hz)	
RV1154	1-223-289-11	RES, VAR, SLIDE 100K (330Hz)	
RV1155	1-223-289-11	RES, VAR, SLIDE 100K (1KHz)	
RV1156	1-223-289-11	RES, VAR, SLIDE 100K (3.3KHz)	
RV1157	1-223-289-11	RES, VAR, SLIDE 100K (10KHz)	

< SWITCH >

Ref. No.	Part No.	Description	Remarks
S601	1-554-303-21	SWITCH, TACTILE (1)	
S602	1-554-303-21	SWITCH, TACTILE (2)	
S603	1-554-303-21	SWITCH, TACTILE (3)	
S604	1-554-303-21	SWITCH, TACTILE (4)	
S605	1-554-303-21	SWITCH, TACTILE (5)	
S606	1-554-303-21	SWITCH, TACTILE (6)	
S607	1-554-303-21	SWITCH, TACTILE (7)	
S608	1-554-303-21	SWITCH, TACTILE (8)	
S609	1-554-303-21	SWITCH, TACTILE (9)	
S610	1-554-303-21	SWITCH, TACTILE (0)	
S611	1-554-303-21	SWITCH, TACTILE (+)	
S612	1-554-303-21	SWITCH, TACTILE (-)	
S613	1-554-303-21	SWITCH, TACTILE (SHIFT)	
S614	1-554-303-21	SWITCH, TACTILE (BAND SELECT)	
S615	1-554-303-21	SWITCH, TACTILE (ST MUTE)	
S616	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S619	1-554-303-21	SWITCH, TACTILE (VIDEO)	
S620	1-554-303-21	SWITCH, TACTILE (TAPE)	
S621	1-554-303-21	SWITCH, TACTILE (CD)	
S622	1-554-303-21	SWITCH, TACTILE (TUNER)	
S623	1-554-303-21	SWITCH, TACTILE (PHONO)	
S1102	1-571-305-11	SWITCH, PUSH (EQUALIZER)(1 KEY)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X601	1-567-775-11	VIBRATOR, CERAMIC (4.19 MHz)	

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POWER AMPLIFIER

Ref. No.	Part No.	Description	Remarks
*	A-4356-616-A	POWER AMPLIFIER BOARD, COMPLETE (A17)	
		************************************	
*	A-4356-677-A	POWER AMPLIFIER BOARD, COMPLETE (*1)	
		************************************	
*	A-4356-689-A	POWER AMPLIFIER BOARD, COMPLETE (*2)	
		************************************	
*	A-4356-718-A	POWER AMPLIFIER BOARD, COMPLETE (*3)	
		************************************	
*	A-4356-698-A	POWER AMPLIFIER BOARD, COMPLETE (*4)	
		************************************	

< CAPACITOR >

Ref. No.	Part No.	Description				Remarks
C1201	1-124-257-00	ELECT	2.2uF	20%	50V	
C1202	1-162-290-31	CERAMIC	470PF	10%	50V	(*1, 2, 3, 4)
C1203	1-162-292-31	CERAMIC	680PF	10%	50V	(*3)
C1204	1-124-477-11	ELECT	47uF	20%	25V	
C1205	1-124-910-11	ELECT	47uF	20%	50V	
C1206	1-124-122-11	ELECT	100uF	20%	50V	
C1207	1-136-165-00	FILM	0.1uF	5%	50V	
C1208	1-124-916-11	ELECT	22uF	20%	63V	
C1209	1-164-159-11	CERAMIC	0.1uF		50V	
C1210	1-136-163-00	FILM	0.068uF	5%	50V	
C1211	1-136-163-00	FILM	0.068uF	5%	50V	
C1220	1-124-910-11	ELECT	47uF	20%	50V	
C1230	1-161-494-00	CERAMIC	0.022uF		25V	(*3)
C1231	1-161-494-00	CERAMIC	0.022uF		25V	(*3)
C1232	1-161-494-00	CERAMIC	0.022uF		25V	(*3)
C1233	1-161-494-00	CERAMIC	0.022uF		25V	(*3)
C1251	1-124-257-00	ELECT	2.2uF	20%	50V	(*1, 2, 4)
C1252	1-162-290-31	CERAMIC	470PF	10%	50V	(*1, 2, 3, 4)
C1253	1-162-292-31	CERAMIC	680PF	10%	50V	(*3)
C1254	1-124-477-11	ELECT	47uF	20%	25V	
C1255	1-124-910-11	ELECT	47uF	20%	50V	
C1256	1-124-122-11	ELECT	100uF	20%	50V	
C1257	1-136-165-00	FILM	0.1uF	5%	50V	
C1260	1-136-163-00	FILM	0.068uF	5%	50V	
C1261	1-136-163-00	FILM	0.068uF	5%	50V	
C1280	1-161-494-00	CERAMIC	0.022uF		25V	(*3)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN1201	1-564-518-11	PLUG, CONNECTOR 3P	
* CN1202	1-564-522-11	PLUG, CONNECTOR 7P	

< DIODE >

Ref. No.	Part No.	Description		Remarks
D1201	8-719-987-63	DIODE	1N4148M	
D1251	8-719-987-63	DIODE	1N4148M	

< IC >

Ref. No.	Part No.	Description		Remarks
IC1201	8-749-900-96	IC	STK-4142MK2	(A17, *4)
IC1201	8-749-920-13	IC	STK-4132MK2	(*1, 2, 3)

< COIL >

Ref. No.	Part No.	Description	Remarks
L1221	1-420-872-00	COIL, AIR CORE	
L1251	1-420-872-00	COIL, AIR CORE	

< TRANSISTOR >

Ref. No.	Part No.	Description		Remarks
Q1201	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	
Q1202	8-729-900-80	TRANSISTOR	DTC114ES	
Q1203	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q1251	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	

< RESISTOR >

Ref. No.	Part No.	Description					Remarks
R1201	1-249-417-11	CARBON	1K	5%	1/4W	F	
R1202	1-249-438-11	CARBON	56K	5%	1/4W		
R1203	1-249-417-11	CARBON	1K	5%	1/4W	F	
R1204	1-249-438-11	CARBON	56K	5%	1/4W		
R1205	1-249-425-11	CARBON	4.7K	5%	1/4W	F	
R1206	1-249-425-11	CARBON	4.7K	5%	1/4W	F	
R1207	1-249-425-11	CARBON	4.7K	5%	1/4W	F	
R1208	1-249-425-11	CARBON	4.7K	5%	1/4W	F	
⚠R1209	1-212-881-11	FUSIBLE	100	5%	1/4W	F	
⚠R1210	1-217-151-00	RES, METAL PLATE	0.22				
R1211	1-249-417-11	CARBON	1K	5%	1/4W	F	
R1212	1-249-431-11	CARBON	15K	5%	1/4W		
R1213	1-249-441-11	CARBON	100K	5%	1/4W		
R1214	1-249-421-11	CARBON	2.2K	5%	1/4W	F	
R1215	1-249-421-11	CARBON	2.2K	5%	1/4W	F	
R1216	1-249-421-11	CARBON	2.2K	5%	1/4W	F	
R1217	1-249-421-11	CARBON	2.2K	5%	1/4W	F	
R1218	1-249-397-11	CARBON	22	5%	1/4W	F	
R1219	1-249-397-11	CARBON	22	5%	1/4W	F	
R1220	1-249-397-11	CARBON	22	5%	1/4W	F	
R1221	1-249-397-11	CARBON	22	5%	1/4W	F	
R1227	1-249-429-11	CARBON	10K	5%	1/4W		
R1228	1-247-881-00	CARBON	120K	5%	1/4W		
R1229	1-249-439-11	CARBON	68K	5%	1/4W		
R1230	1-249-439-11	CARBON	68K	5%	1/4W		
R1231	1-249-417-11	CARBON	1K	5%	1/4W	F	
R1232	1-249-428-11	CARBON	8.2K	5%	1/4W	F	
R1238	1-249-433-11	CARBON	22K	5%	1/4W		
R1239	1-249-426-11	CARBON	5.6K	5%	1/4W		
R1241	1-249-383-81	CARBON	1.5	5%	1/4W	F	(A17, *1, 2)

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
R1251	1-249-417-11	CARBON 1K 5% 1/4W	F
R1252	1-249-438-11	CARBON 56K 5% 1/4W	
R1253	1-249-417-11	CARBON 1K 5% 1/4W	F
R1254	1-249-438-11	CARBON 56K 5% 1/4W	
R1255	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R1256	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R1257	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R1258	1-249-425-11	CARBON 4.7K 5% 1/4W	F
⚠R1259	1-212-881-11	FUSIBLE 100 5% 1/4W	F
⚠R1260	1-217-151-00	RES, METAL PLATE 0.22	
R1261	1-249-417-11	CARBON 1K 5% 1/4W	F
R1262	1-249-431-11	CARBON 15K 5% 1/4W	
R1263	1-249-441-11	CARBON 100K 5% 1/4W	
R1268	1-249-397-11	CARBON 22 5% 1/4W	F
R1269	1-249-397-11	CARBON 22 5% 1/4W	F
R1270	1-249-397-11	CARBON 22 5% 1/4W	F
R1271	1-249-397-11	CARBON 22 5% 1/4W	F

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remarks
18	1-590-578-11	WIRE, FLAT TYPE (19 CORE)	
19	1-590-576-11	WIRE, FLAT TYPE (11 CORE) (A17)	
19	1-590-576-21	WIRE, FLAT TYPE (11 CORE) (D159)	
⚠64	1-575-651-11	CORD, POWER (D159:AEP, AE2, IT, G)	
⚠64	1-575-653-11	CORD, POWER (A17:E, PX)	
⚠64	1-690-609-11	CORD, POWER (D159:US, CND)	
⚠64	1-696-570-21	CORD, POWER (D159:UK)	
⚠64	1-696-848-21	CORD, POWER (A17:AUS)	
⚠F1301	1-532-350-00	FUSE 4A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1301	1-576-108-11	FUSE 4A (D159:US, CND)	
⚠F1302	1-576-108-11	FUSE 4A (D159:US, CND)	
⚠F1302	1-532-350-00	FUSE 4A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1303	1-532-203-00	FUSE 2A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1303	1-576-104-11	FUSE (D159:US, CND)	
⚠F1304	1-532-203-00	FUSE 2A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1304	1-576-104-11	FUSE (D159:US, CND)	
⚠F1305	1-576-105-11	FUSE (D159:US, CND)	
⚠F1305	1-532-286-00	FUSE 2.5A (A17/D159:AEP, AE2, UK, IT, G)	
⚠F1306	1-576-105-11	FUSE (D159:US, CND)	
⚠F1306	1-532-286-00	FUSE 2.5A (A17/D159:AEP, AE2, UK, IT, G)	
S901	1-572-267-61	SWITCH, PUSH (AC POWER)(1 KEY)	
⚠T1301	1-423-434-11	TRANSFORMER, POWER (D159:AEP, AE2, UK, IT, G)	
⚠T1301	1-423-435-11	TRANSFORMER, POWER (D159:US, CND)	
⚠T1301	1-423-436-11	TRANSFORMER, POWER (A17)	
⚠VS1301	1-570-046-21	SWITCH, VOLTAGE CHANGE (A17)	

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ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
	1-466-926-11	COMMANDER, STANDARD (RM-S109)	
	1-501-374-11	ANTENNA, LOOP (D159:AE2, IT/D159:IT)	
	1-501-536-11	ANTENNA (D159:AE2, IT)	
	1-696-860-11	CORD, CONNECTION 13P (D159:AE2, IT)	
	2-181-754-21	COVER (MLY), BATTERY	
*	3-703-713-41	STICKER, SONY SYMBOL (10)	
	3-756-330-41	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH/PORTUGAL) (D159:AE2)	
	3-756-330-51	MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH/ITALIAN) (D159:AE2, IT)	
	4-957-498-01	INDIVIDUAL CARTON (D159:AE2, IT)	
	4-958-606-01	CUSHION (D159:AE2, IT)	

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****
HARDWARE LIST
****

Ref. No.	Part No.	Description	Remarks
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-682-560-04	SCREW +BVTT 4X6 (S)	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

English
93H16Y0914-1
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Published by Audio Sector Quality Assurance Dept.

Sony Corporation
Audio Group

HTC-D159

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

HTC-D159 is the compact disc deck in LBT-A17CDM/D159CD/D220CD.

SPECIFICATIONS

Cassette deck

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 13 kHz (±3 dB)
Wow and flutter	W.PEAK ±0.2% (DIN)

Compact disc player

Laser	Semiconductor laser ($\lambda = 780$ nm)
Laser output	Max. 44.6 μW* * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 93 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.008% (1 kHz)
Channel separation	More than 90 dB (1 kHz)

General

Mass	Approx. 6.2 kg
Dimensions	Approx. 355 × 225 × 385 mm (w/h/d, including projections)

Design and specifications are subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ᗡᗞ are trademarks of Dolby Laboratories Licensing Corporation.

CD Section	Model Name Using Similar Mechanism	HCD-H150/H500
	Base Unit Name	BU-5BD3
DECK Section	Model Name Using Similar Mechanism	HCD-D109
	Tape Transport Mechanism Type	TCM-180VW-H9

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside of the unit.

CAUTION ;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO! ;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ;	LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL ;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

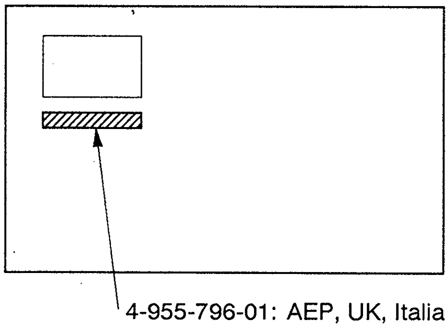
使用時は添付資料も参照のこと
Refer to the additional documents.

COMPACT DISC DECK

SONY®

MODEL IDENTIFICATION

Back Panel



4-955-796-01: AEP, UK, Italian, Models
4-955-796-21: US, Canadian Models
4-955-819-31: HTC-D309E Model

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

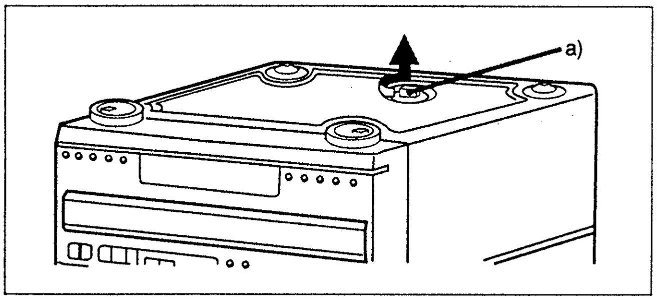
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Note on the Transit key



The transit key (a)) on the bottom exterior of the CD player protects the optical system against shock during transportation.
Before operating the unit, be sure to remove the key by following the instructions on the label, and store it in a safe place.
When transporting the unit, put the key its original position and lock it in place.

TABLE OF CONTENTS

Section *Title* *Page*

Specifications 1
Notes on Handling the Optical Pick-up Block or Base Unit 2
Notes on Laser Diode Emission Check 2
Note on the Transit Key 2
Safety Check-out 3

1. **GENERAL** 3

2. **ADJUSTMENTS**
2-1. Mechanical Adjustment 4
2-2. Electrical Adjustment 4
Cassette Deck Section 4
CD Section 7

3. **DIAGRAMS**
3-1. CD Section Block Diagram 9
3-2. Tape Deck Section Block Diagram 11
3-3. CD Section Printed Wiring Boards 16
3-4. CD Section Schematic Diagram 19
3-5. Cassette Deck Section Printed Wiring Boards and Schematic Diagram (Except E Model) 25
3-6. Cassette Deck Section Printed Wiring Boards and Schematic Diagram (E Model) 29

4. **EXPLODED VIEWS** 33

5. **ELECTRICAL PARTS LIST** 41

SECTION 1
GENERAL

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

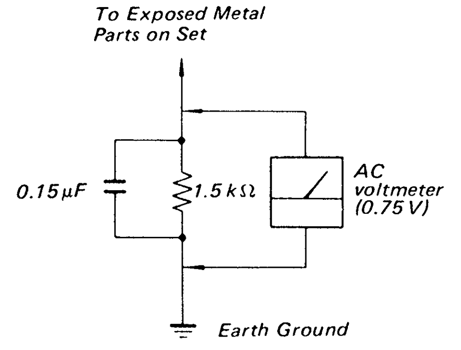
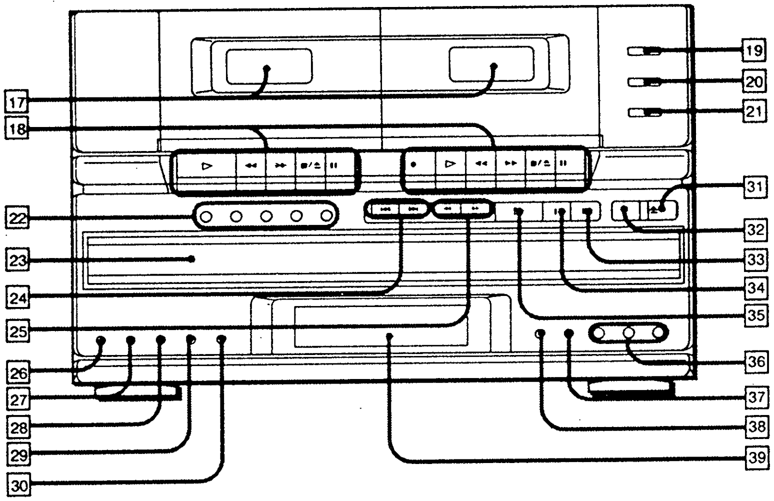


Fig. A. Using an AC voltmeter to check AC leakage.

Location of Controls



Cassette Deck

17 Cassette holders
18 Tape operation buttons (24)
  ◀◀ Leftward fast winding
  ▶▶ Rightward fast winding
  ▶ Forward play
  ■/⏏ Stop/eject
  ❚❚ PAUSE Pause
  ● REC Record
19 TAPE SELECT button (24, 26, 30)
20 DUBBING SPEED (HIGH/NORMAL) button (30)
21 DOLBY NR (noise reduction) button (Except E model) (24, 26)

Compact Disc Player

22 DISC 1 – 5 buttons (32, 36, 40, 42, 44)
23 Disc tray
24 ⏮/⏭ (AMS*) buttons (36, 42, 44, 54, 62)
25 ◀◀/▶▶ (manual search) buttons (38, 54, 62)
26 TIME button (34)
27 FADER button (60)
28 EDIT/TIME FADE button (54, 60)
29 CHECK (program check) button (44)
30 CLEAR (program clear) button (46)
31 ⏏ OPEN/CLOSE button (32)
32 DISC SKIP button (32, 36)
33 ■ (stop) button (32)
34 ❚❚ (pause) button (32)
35 ▶ (play) button (32)
36 PLAY MODE button
  PROGRAM button (42, 52)
  SHUFFLE button (40)
  CONTINUE button (32)
37 MUSIC SCAN button (48)
38 REPEAT button (50)
39 Display window

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured alcohol-moistened swab :

record/playback heads	pinch rollers
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30 – 70g • cm (0.42 – 0.97oz • inch)
FWD Back tension	CQ-102C	1.5 – 5.5g • cm (0.020 – 0.076oz • inch)
FF/REW	CQ-201B	63g • cm or more (0.87oz • inch)

Chucking Arm Height Adjustment

This Adjustment should be performed after the electrical adjustment and on replacing adjusting screw, magnet, or chucking pulley.

Procedure:

1. Set disc (YEDS-18) to the optical pick-up block. (Fig. A)
2. Adjust the bracket (press pulley) to the center of the magnet with adjusting screw. (Fig. B)

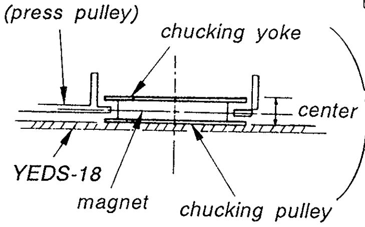


Fig. B

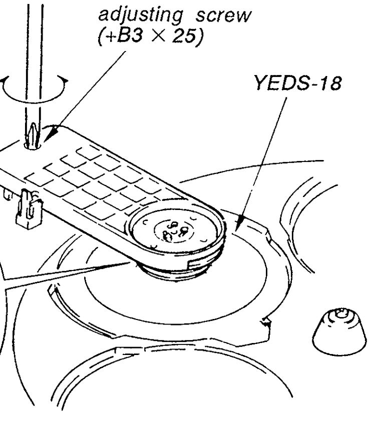


Fig. A

2-2. ELECTRICAL ADJUSTMENTS

0dB = 0.775V (AF)

[ ] indicates for E model.

CASSETTE DECK SECTION

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

TAPE SELECT switch : TYPE 1

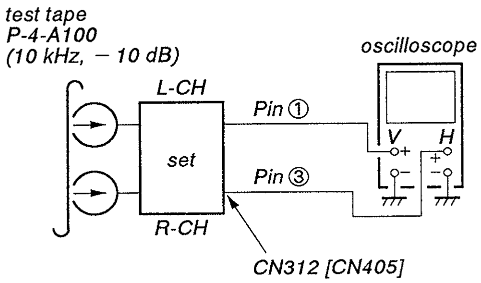
Type	Signal	Used for
P-4-A100	10kHz, – 10dB	Azimath Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment
DECK A **DECK B**

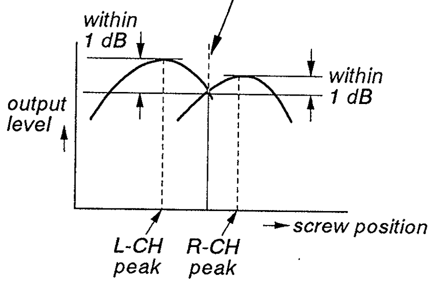
Note: Perform this adjustments for both decks.

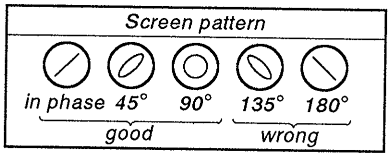
Procedure:

1. Mode : FWD playback



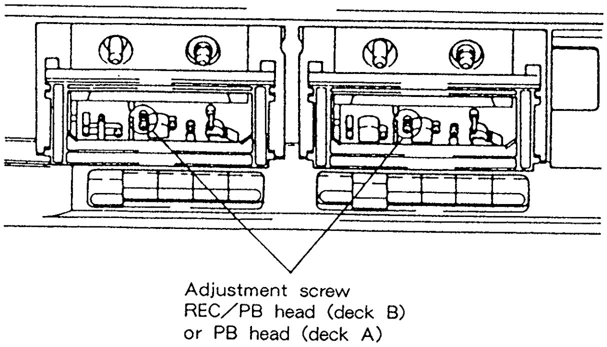
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.




Screen pattern
in phase
45°
90°
135°
180°
good
wrong

3. After the adjustments, apply suitable locking compound to the parts adjusted.

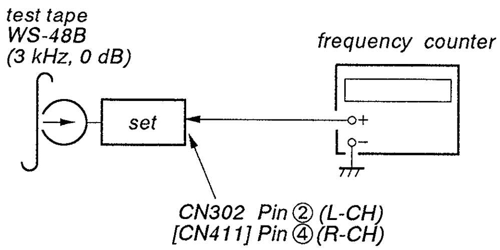
Adjustment Location:


Adjustment screw
REC/PB head (deck B)
or PB head (deck A)

Tape Speed Adjustment **DECK A** **DECK B**

Procedure:

Mode : Playback


test tape
WS-48B
(3 kHz, 0 dB)
frequency counter
set
CN302 Pin② (L-CH)
[CN411] Pin④ (R-CH)

- High speed adjustment (Must be first Adjustment B deck)
  1. Short pin CNP311 [CNP407] on set "DUBBING" speed switch to "HIGH". Then at HIGH speed mode.
  2. Adjust RV371 [RV504] so that the frequency counter reads 6,000 ± 20Hz.
- NORMAL speed adjustment
  1. Remove the short pin from CNP311 [CNP407] on set "DUBBING" speed switch to "NORMAL". Then at NORMAL speed mode.
  2. Adjust RV372 [RV505] so that the frequency counter reads 3,000 ± 10Hz.

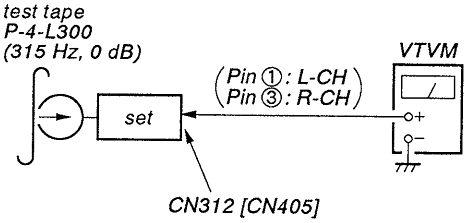
     (See right for Adjusting Parts Location)

Frequency difference between deck A and deck B the beginning of the tape should be within 1%.

Playback Level Adjustment **DECK A** **DECK B**

Procedure:

Mode : FWD Playback


test tape
P-4-L300
(315 Hz, 0 dB)
VTVM
(Pin①: L-CH
Pin③: R-CH)
set
CN312 [CN405]

DECK-A side RV101 [RV400] (L-CH), RV201 [RV500] (R-CH)
DECK-B side RV102 [RV401] (L-CH), RV202 [RV501] (R-CH)
so that the limits below are satisfied.

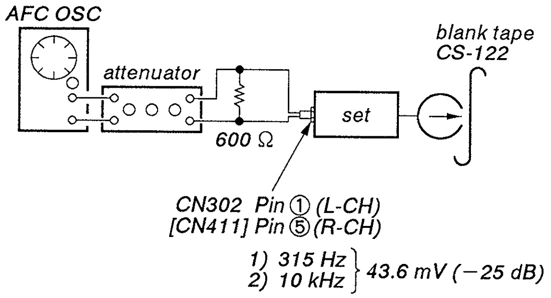
Adjustable limits:

CN405 level : 461.6 – 411.4mV (–4.5~–5.5dB)
level difference between the channels : within 1.0dB
(See right for Adjusting Parts Location)

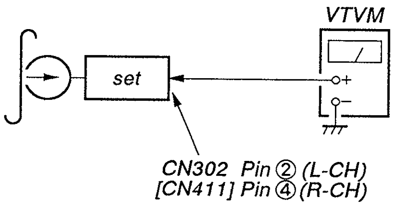
Record BIAS Current Adjustment **DECK B**

Procedure:

1. Mode : record


AFC OSC
attenuator
600 Ω
set
blank tape
CS-122
CN302 Pin① (L-CH)
[CN411] Pin⑤ (R-CH)
1) 315 Hz
2) 10 kHz
43.6 mV (–25 dB)

2. Mode : Playback


VTVM
set
CN302 Pin② (L-CH)
[CN411] Pin④ (R-CH)

(1) Supply a 43.6mV (−25dB) signal (315Hz) from the CN302. Adjust the VOLUME control so that a 24.5mV (−30dB) signal is output to the headphones terminal.
(2) Insert alignment tape CS-122 into deck B and put the set into the REC mode.
(3) Adjust the signal frequency to 10kHz.
(4) Put the set into the PB mode and adjust RV151 [RV403] (L-CH) and RV251 [RV503] (R-CH) in the REC mode so that the level difference between 315Hz and 10kHz is within 0 ± 0.5dB.
(5) Repeatedly put the set into the REC and PB modes two to four times and adjust the bias.

Adjustable limits:

The playback level of 10kHz signal relative to that of 315Hz : 0dB ± 0.5dB.

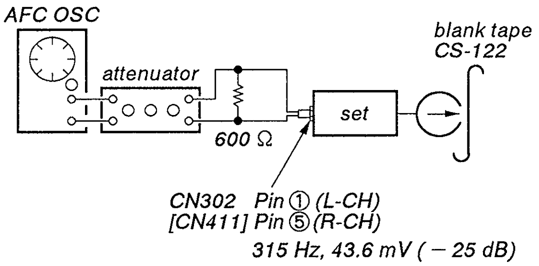
Record Level Adjustment **DECK B**

Setting:

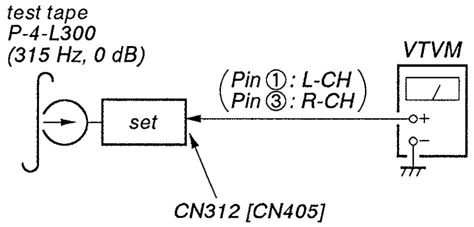
TAPE SELECT : TYPE 1

Procedure:

1. Mode : record


AFC OSC
attenuator
600 Ω
set
blank tape
CS-122
CN302 Pin ① (L-CH)
[CN411] Pin ⑤ (R-CH)
315 Hz, 43.6 mV (−25 dB)

2. Mode : playback


test tape
P-4-L300
(315 Hz, 0 dB)
set
(Pin ①: L-CH)
(Pin ③: R-CH)
VTVM
CN312 [CN405]

(1) Supply a 43.6mV (−25dB) signal (315Hz) from the CD terminal.
(2) Insert alignment tape CS-122 into deck B and record the signal. Then playback the recorded portion of the tape and adjust RV103 [RV402] (L-CH) and RV203 [RV502] (R-CH) so that the 43.6mV (−25dB) signal output is obtained at CN302 [CN411] terminal.

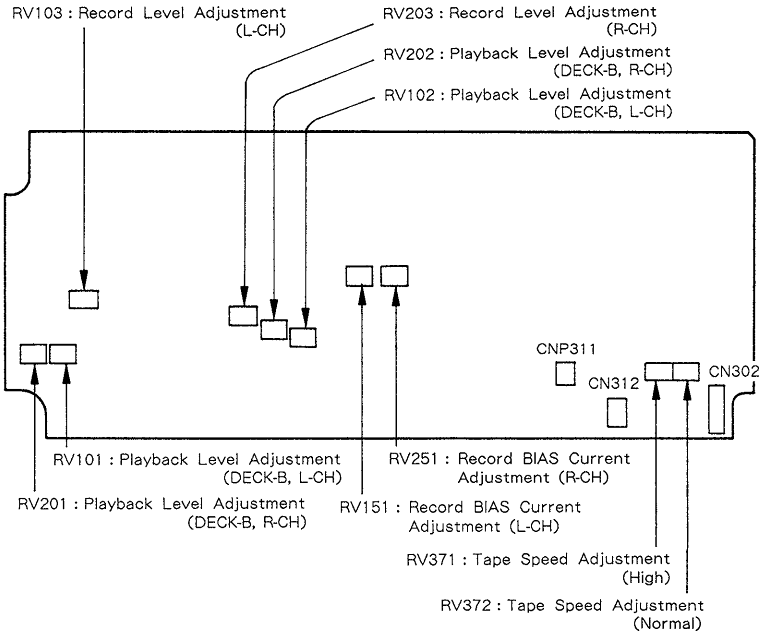
Adjustable limits:

CN312 [CN405] level : 46.2 − 41.1mV (−24.5∼−25.5dB)

• Adjusting Parts Location

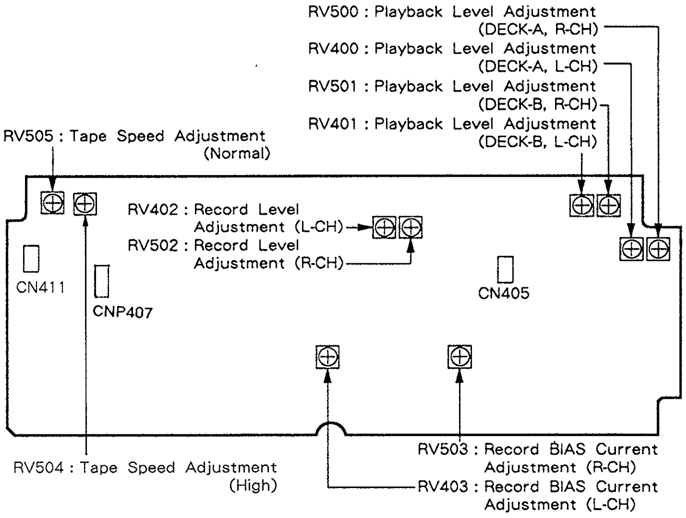
Except E Model:

TC MAIN BOARD (Component Side)


RV103 : Record Level Adjustment (L-CH)
RV203 : Record Level Adjustment (R-CH)
RV202 : Playback Level Adjustment (DECK-B, R-CH)
RV102 : Playback Level Adjustment (DECK-B, L-CH)
CNP311
CN312
CN302
RV101 : Playback Level Adjustment (DECK-B, L-CH)
RV201 : Playback Level Adjustment (DECK-B, R-CH)
RV251 : Record BIAS Current Adjustment (R-CH)
RV151 : Record BIAS Current Adjustment (L-CH)
RV371 : Tape Speed Adjustment (High)
RV372 : Tape Speed Adjustment (Normal)

E Model:

TC MAIN BOARD (Component Side)

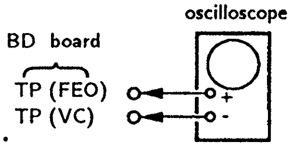

RV500 : Playback Level Adjustment (DECK-A, R-CH)
RV400 : Playback Level Adjustment (DECK-A, L-CH)
RV501 : Playback Level Adjustment (DECK-B, R-CH)
RV401 : Playback Level Adjustment (DECK-B, L-CH)
RV505 : Tape Speed Adjustment (Normal)
RV402 : Record Level Adjustment (L-CH)
RV502 : Record Level Adjustment (R-CH)
CN411
CNP407
CN405
RV504 : Tape Speed Adjustment (High)
RV503 : Record BIAS Current Adjustment (R-CH)
RV403 : Record BIAS Current Adjustment (L-CH)

CD SECTION

Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

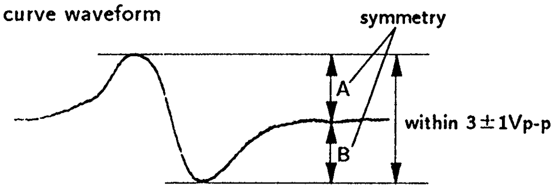
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

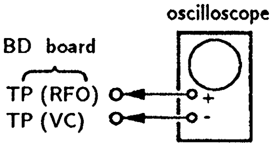
S curve waveform



5. After check, remove the lead wire connected in step 2.

Note :
- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



Procedure :

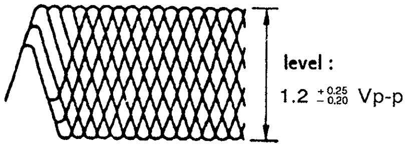
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

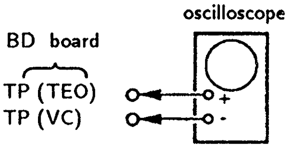
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform

VOLT/DIV : 200mV
TIME/DIV : 500nS



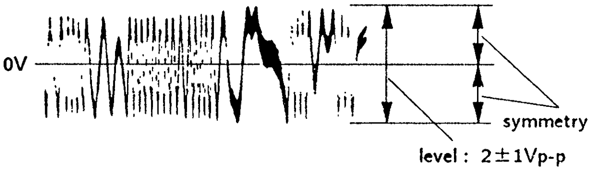
E-F Balance Check



Procedure :

1. Connect test point TP (TEST) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

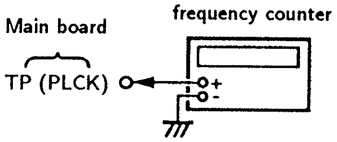


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.


Main board
frequency counter
TP (PLCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.

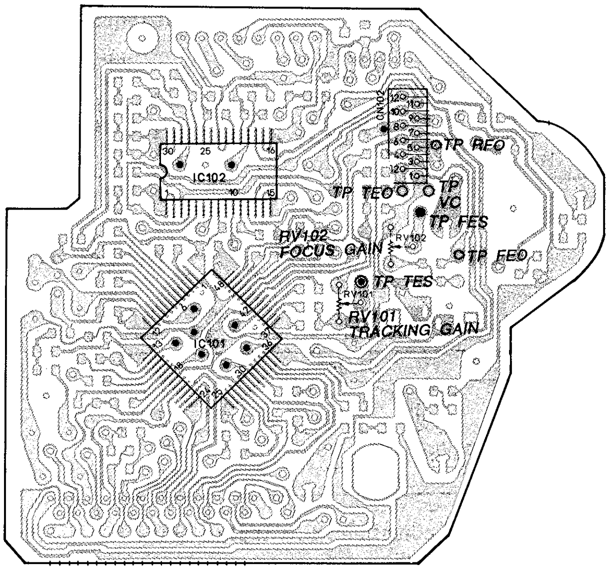
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Locations :

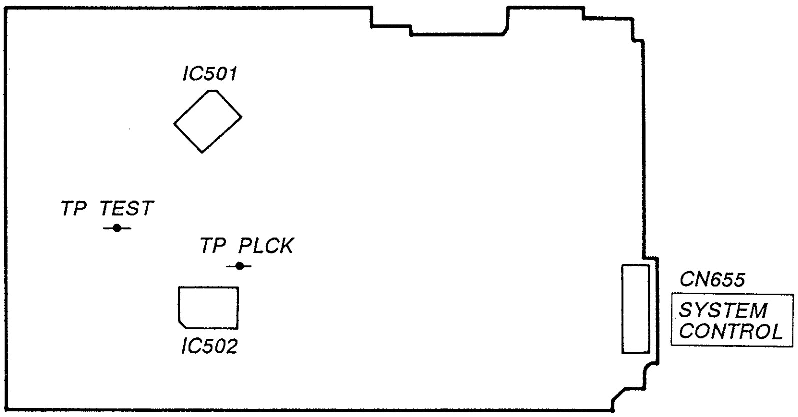
[BD board]

— conductor side —


IC102
CN102
TP RFO
TP TEO
TP VC
TP FES
RV102 FOCUS GAIN
RV102
TP FEO
TP TES
RV101
RV101 TRACKING GAIN
IC101

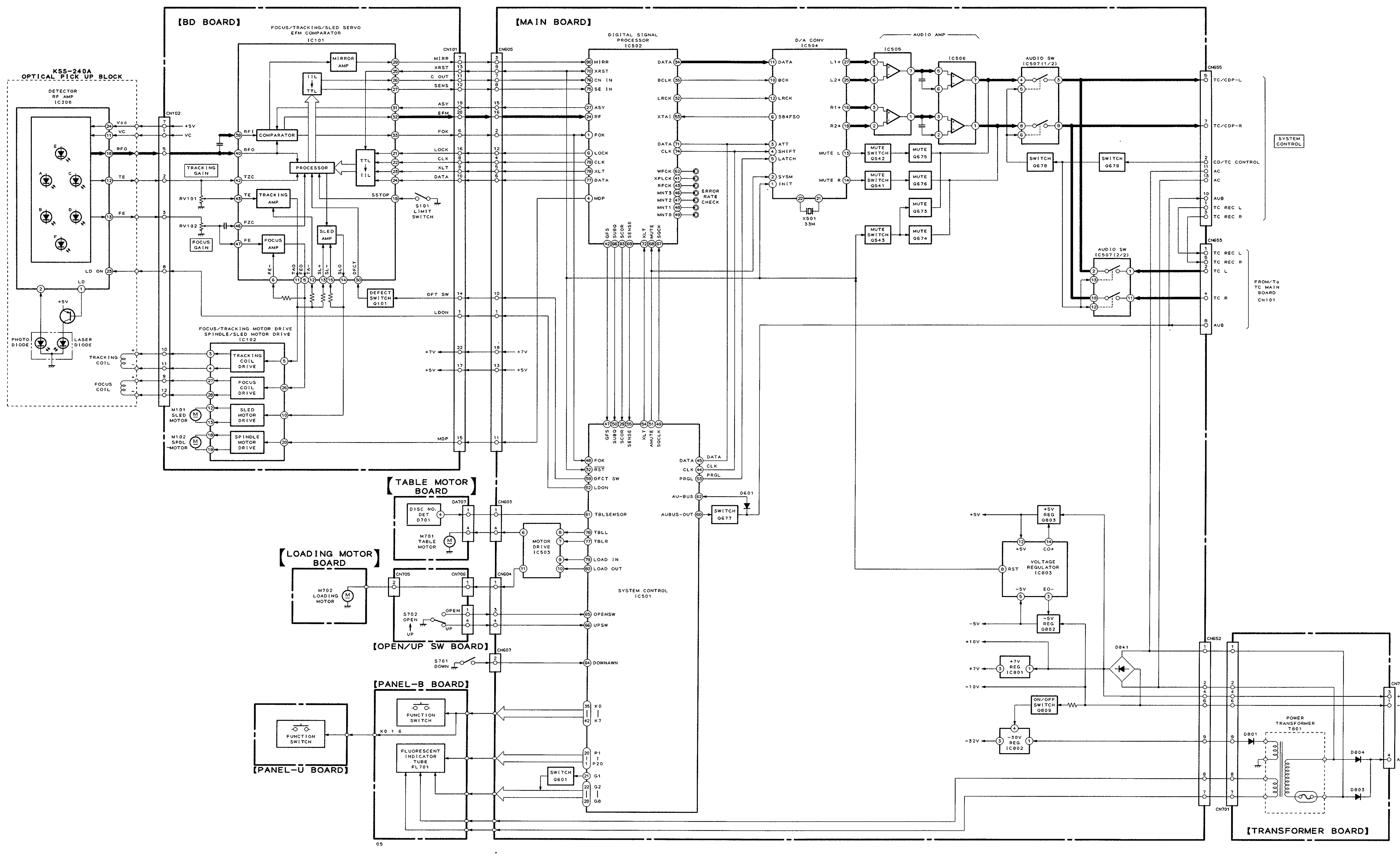
Adjustment Location ;

MAIN BOARD (Conductor Side)


IC501
TP TEST
TP PLCK
IC502
CN655
SYSTEM CONTROL

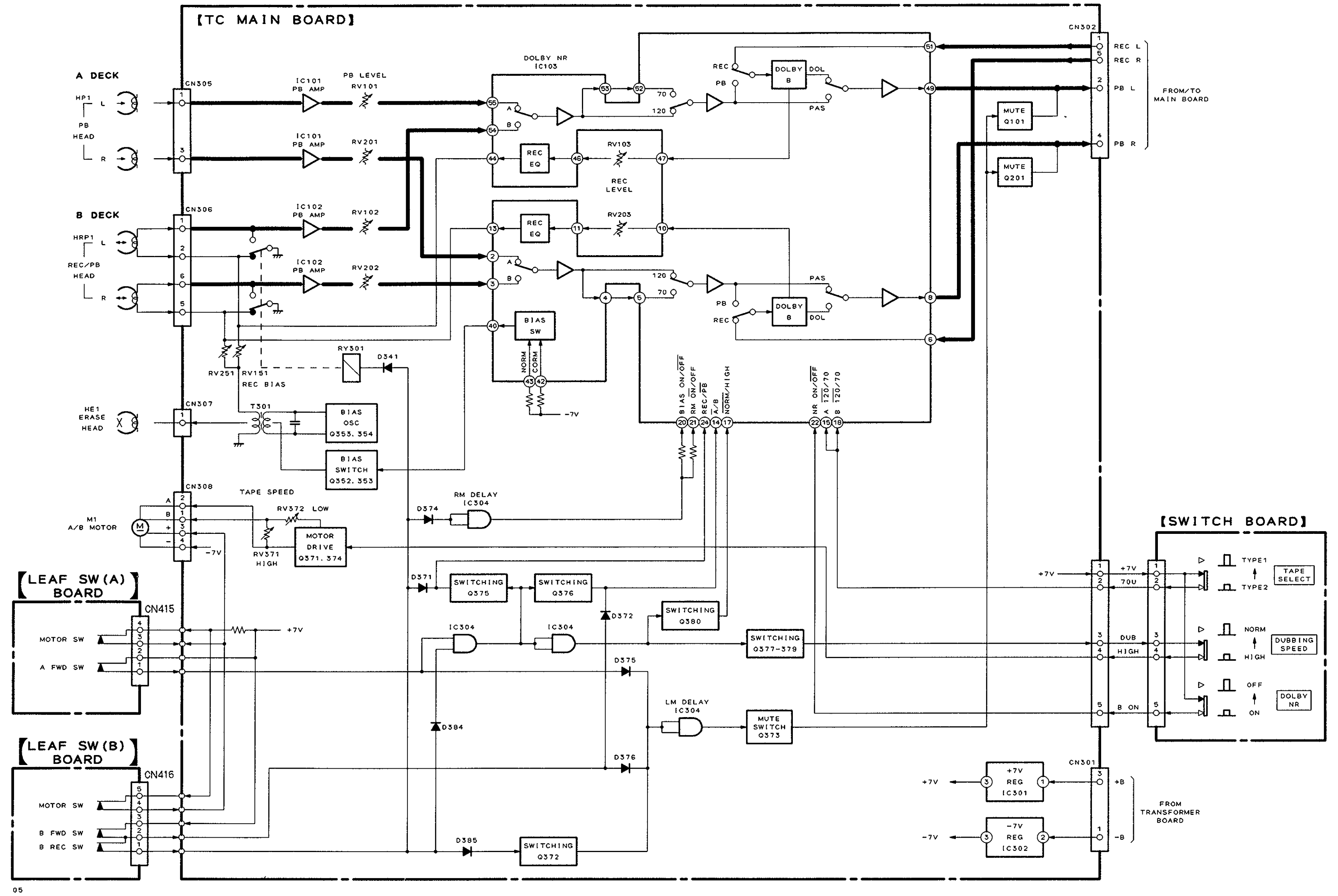
SECTION 3
DIAGRAMS

3-1. CD SECTION BLOCK DIAGRAM

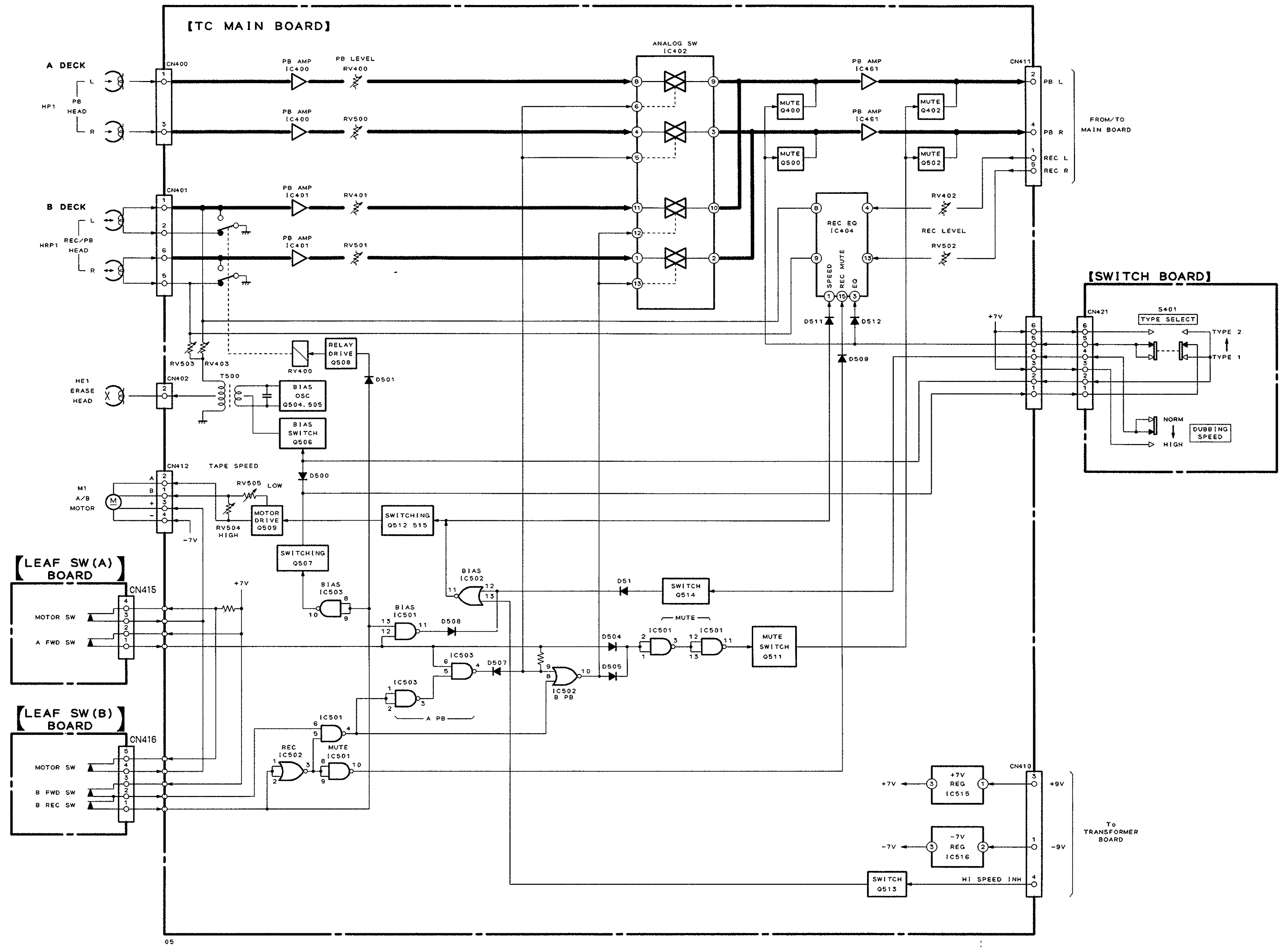

[BD BOARD]
[MAIN BOARD]
KSS-240A OPTICAL PICK UP BLOCK
FOCUS/TRACKING/SLED SERVO EFM COMPARATOR IC101
DIGITAL SIGNAL PROCESSOR IC501
D/A CONV IC504
AUDIO AMP
FOCUS/TRACKING/SLED MOTOR DRIVE SPINDLE/SLED MOTOR DRIVE IC102
[TABLE MOTOR BOARD]
[LOADING MOTOR BOARD]
[OPEN/UP SW BOARD]
[PANEL-B BOARD]
[PANEL-U BOARD]
[TRANSFORMER BOARD]
SYSTEM CONTROL IC501
VOLTAGE REGULATOR IC503
FLUORESCENT INDICATOR TUBE FL701
FUNCTION SWITCH
POWER TRANSFORMER T901
SYSTEM CONTROL
FROM/TO TC MAIN BOARD CN101
TO TC MAIN BOARD CN301

3-2. CASSETTE DECK SECTION BLOCK DIAGRAM

EXCEPT E MODEL

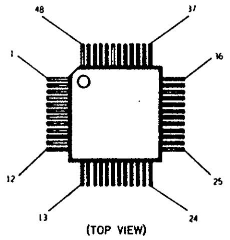

[TC MAIN BOARD]
A DECK
B DECK
DOLBY NR IC103
[SWITCH BOARD]
[LEAF SW(A) BOARD]
[LEAF SW(B) BOARD]
FROM/TO MAIN BOARD
FROM TRANSFORMER BOARD
TAPE SELECT
DUBBING SPEED
DOLBY NR
M1 A/B MOTOR
HE1 ERASE HEAD
MOTOR SW
A FWD SW
B FWD SW
B REC SW

E MODEL

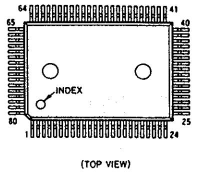

[TC MAIN BOARD]
A DECK
B DECK
ANALOG SW IC402
REC EQ IC404
[SWITCH BOARD]
TYPE SELECT
DUBBING SPEED
[LEAF SW(A) BOARD]
[LEAF SW(B) BOARD]
FROM/TO MAIN BOARD
TO TRANSFORMER BOARD
M1 A/B MOTOR
HE1 ERASE HEAD
MOTOR SW
A FWD SW
B FWD SW
B REC SW

- **Semiconductor Lead Layouts**

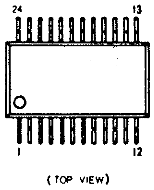
CXA1372AQ


48
37
1
16
12
25
13
24
(TOP VIEW)

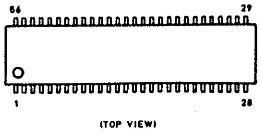
CXD2500BQ
CXP50120-024Q


64
41
65
40
INDEX
80
25
1
24
(TOP VIEW)

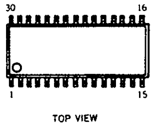
CXD2565M


24
13
1
12
(TOP VIEW)

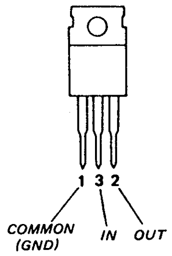
HA12171NT


56
29
1
28
(TOP VIEW)

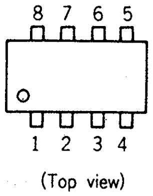
LA6532M


30
16
1
15
TOP VIEW

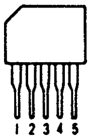
M5F79M07


1 3 2
COMMON (GND)
IN
OUT

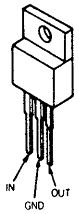
M5218AP


8 7 6 5
1 2 3 4
(Top view)

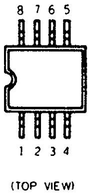
M5293L



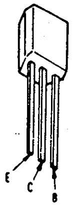
TA7807S



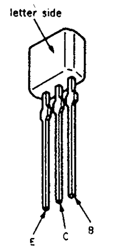
μPC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

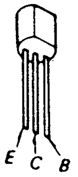
DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SC2603-EF
2SC945-P
2SC1815-Y



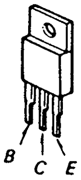
2SA1175-HFE
2SC2785-HFE
2SC3623A-LK


letter side
E
C
B

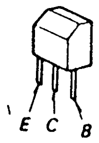
2SB1013-4



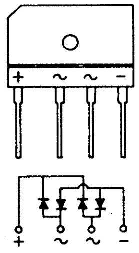
2SB1094-LK



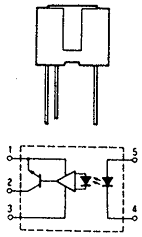
2SD774-34



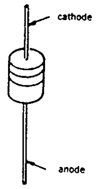
D2SB20



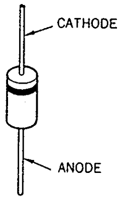
GP-1A521



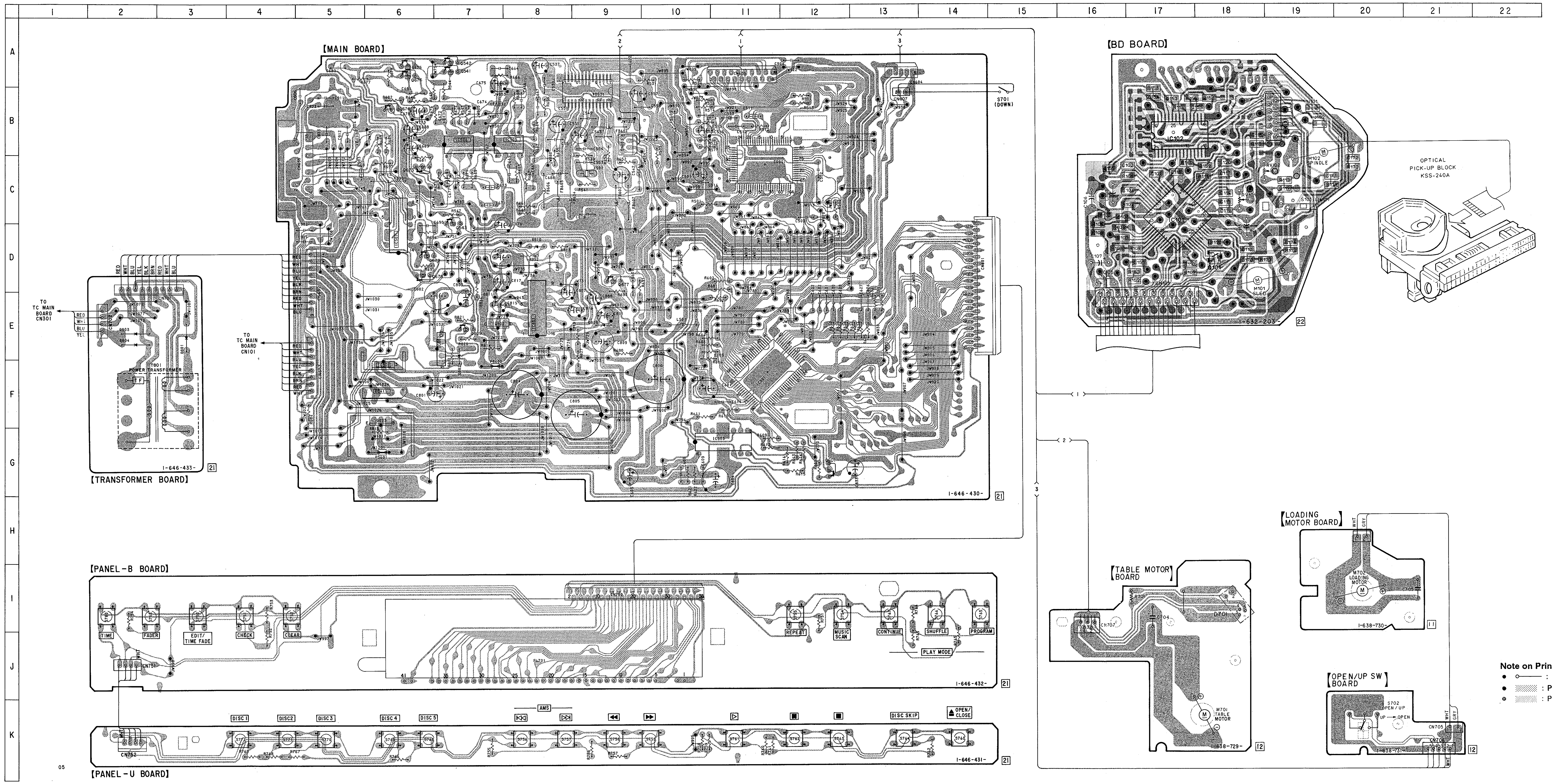
HZS7C2L
UZL-7L1
UZ-2.7BS
11ES2


cathode
anode

1N4148M


CATHODE
ANODE

3-3. CD SECTION PRINTED WIRING BOARDS



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
A B C D E F G H I J K
[MAIN BOARD]
S701 (DOWN)
TO TC MAIN BOARD CN301
TO TC MAIN BOARD CN101
RED WHT BLU YEL BLK BRN
T801 POWER TRANSFORMER
1-646-433-
[TRANSFORMER BOARD]
1-646-430-
[BD BOARD]
IC101
IC102
M102 SPINDLE
M101 SLED
1-632-203-
OPTICAL PICK-UP BLOCK KSS-240A
[PANEL-B BOARD]
TIME
FADER
EDIT/ TIME FADE
CHECK
CLEAR
REPEAT
MUSIC SCAN
CONTINUE
SHUFFLE
PROGRAM
PLAY MODE
CN751
1-646-432-
DISC1
DISC2
DISC3
DISC4
DISC5
AMS
DISC SKIP
OPEN/ CLOSE
CN752
1-646-431-
[PANEL-U BOARD]
[TABLE MOTOR BOARD]
CN702
D701
M701 TABLE MOTOR
1-638-729-
[LOADING MOTOR BOARD]
M702 LOADING MOTOR
1-638-730-
[OPEN/UP SW BOARD]
S702 OPEN/UP
CN705
CN706
1-638-731-

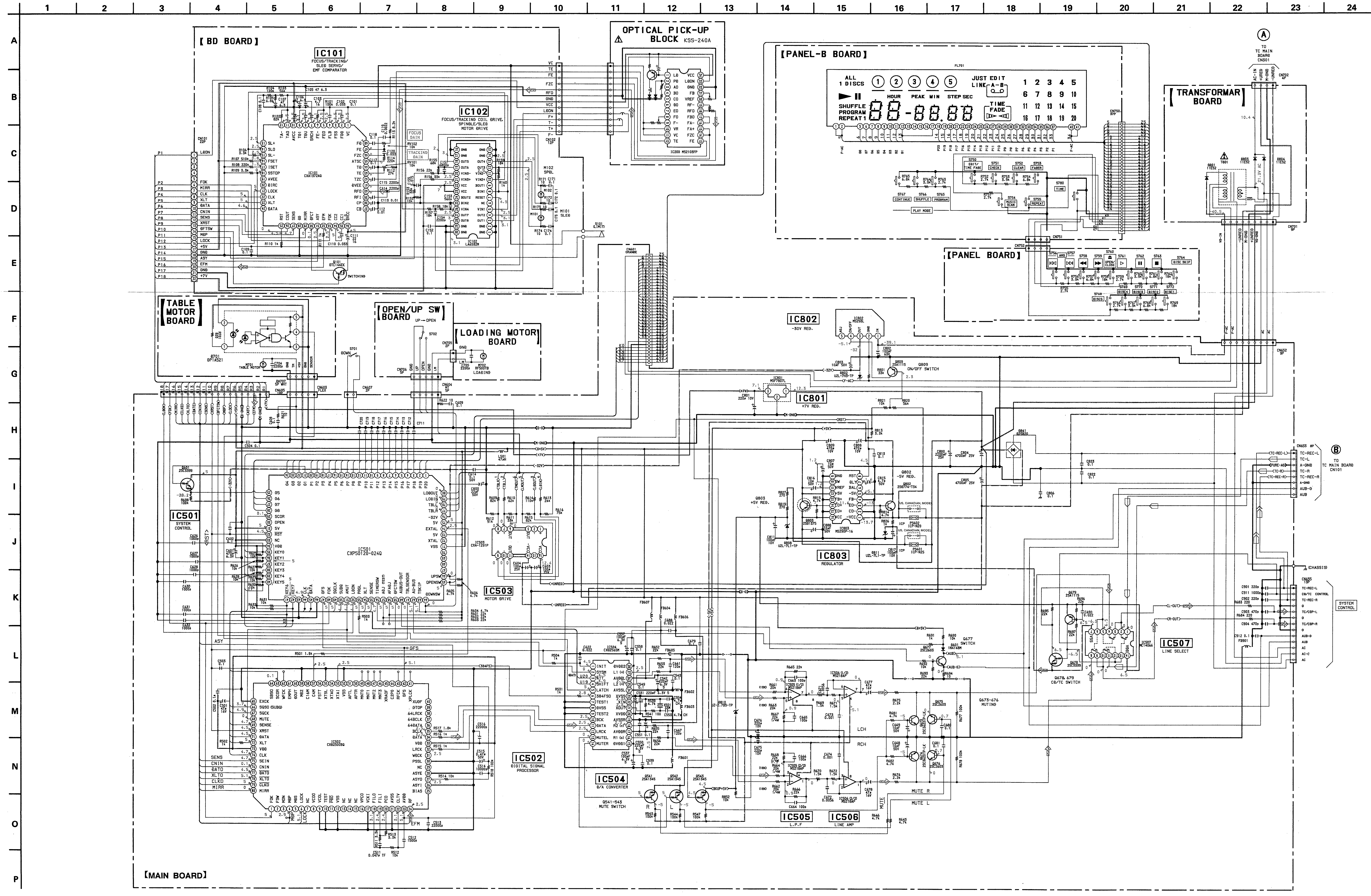
- **Semiconductor Location**

Ref. No.	Location
D601	D-9
D701	I-18
D801	E-3
D802	E-7
D803	E-2
D804	E-2
D808	E-9
D810	D-8
D811	D-7
D841	F-6
IC101	C-17
IC102	B-17
IC501	F-11
IC502	C-11
IC503	G-11
IC504	B-9
IC505	B-8
IC506	B-7
IC507	D-6
IC801	F-6
IC802	E-7
IC803	E-8

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

3-4. CD SECTION SCHEMATIC DIAGRAM


[BD BOARD]
IC101
FOCUS/TRACKING/SLED SERVO/EMF COMPARATOR
IC102
FOCUS/TRACKING COIL DRIVE, SPINDLE/SLED MOTOR DRIVE
OPTICAL PICK-UP BLOCK KSS-240A
[PANEL-B BOARD]
[TRANSFORMAR BOARD]
[PANEL BOARD]
[TABLE MOTOR BOARD]
[OPEN/UP SW BOARD]
[LOADING MOTOR BOARD]
IC802
-30V REG.
IC801
+7V REG.
IC803
REGULATOR
IC501
SYSTEM CONTROL
IC503
MOTOR DRIVE
IC502
DIGITAL SIGNAL PROCESSOR
IC504
D/A CONVERTER
IC505
L.P.F
IC506
LINE AMP
IC507
LINE SELECT
Q541-543 MUTE SWITCH
Q673-676 MUTING
Q678, 679 CD/TC SWITCH
A
TO TC MAIN BOARD CN501
B
TO TC MAIN BOARD CN101
SYSTEM CONTROL
[MAIN BOARD]
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
A B C D E F G H I J K L M N O P

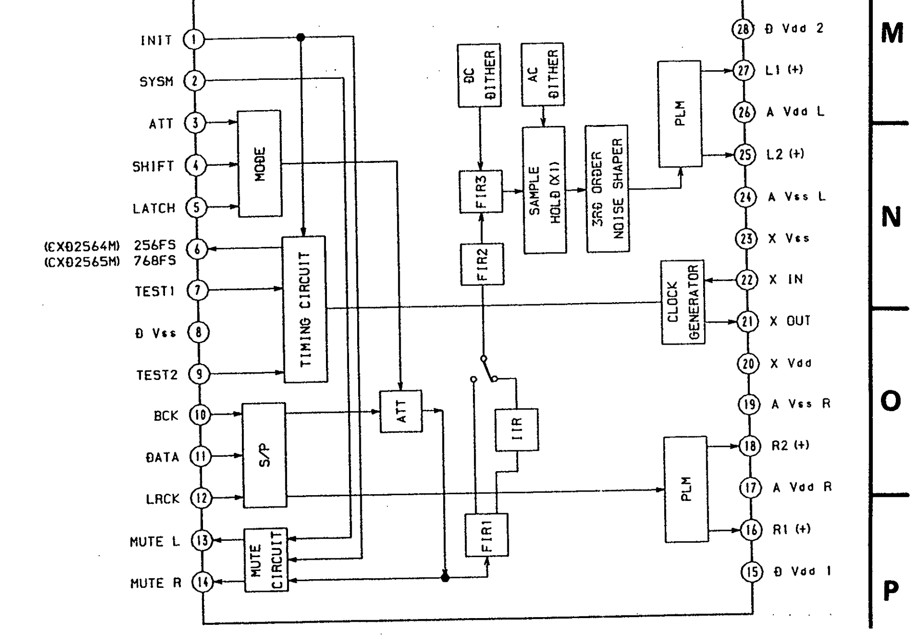
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
- ☐ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark :CD PLAY (COMMON)
  (   ) :DECK A PB
  ≪   ≫ :DECK B PB
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)

IC504 CXD2565M


INIT
SYSM
ATT
SHIFT
LATCH
ICXD2564M 256FS
ICXD2565M 768FS
TEST1
B Vss
TEST2
BCK
DATA
LRCK
MUTE L
MUTE R
MODE
TIMING CIRCUIT
S/P
ATT
FIR3
FIR2
FIR1
SAMPLE HOLD
3RD ORDER NOISE SHAPER
PLM
CLOCK GENERATOR
MUTE DETECTOR
D Vdd 2
L1
A Vss L
L2
A Vdd L
X IN
X OUT
X Vdd
X Vss
A Vdd R
R2
A Vss R
R1
D Vdd 1

3-5. CASSETTE DECK SECTION PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM (EXPECT E MODEL)

• Semiconductor Location

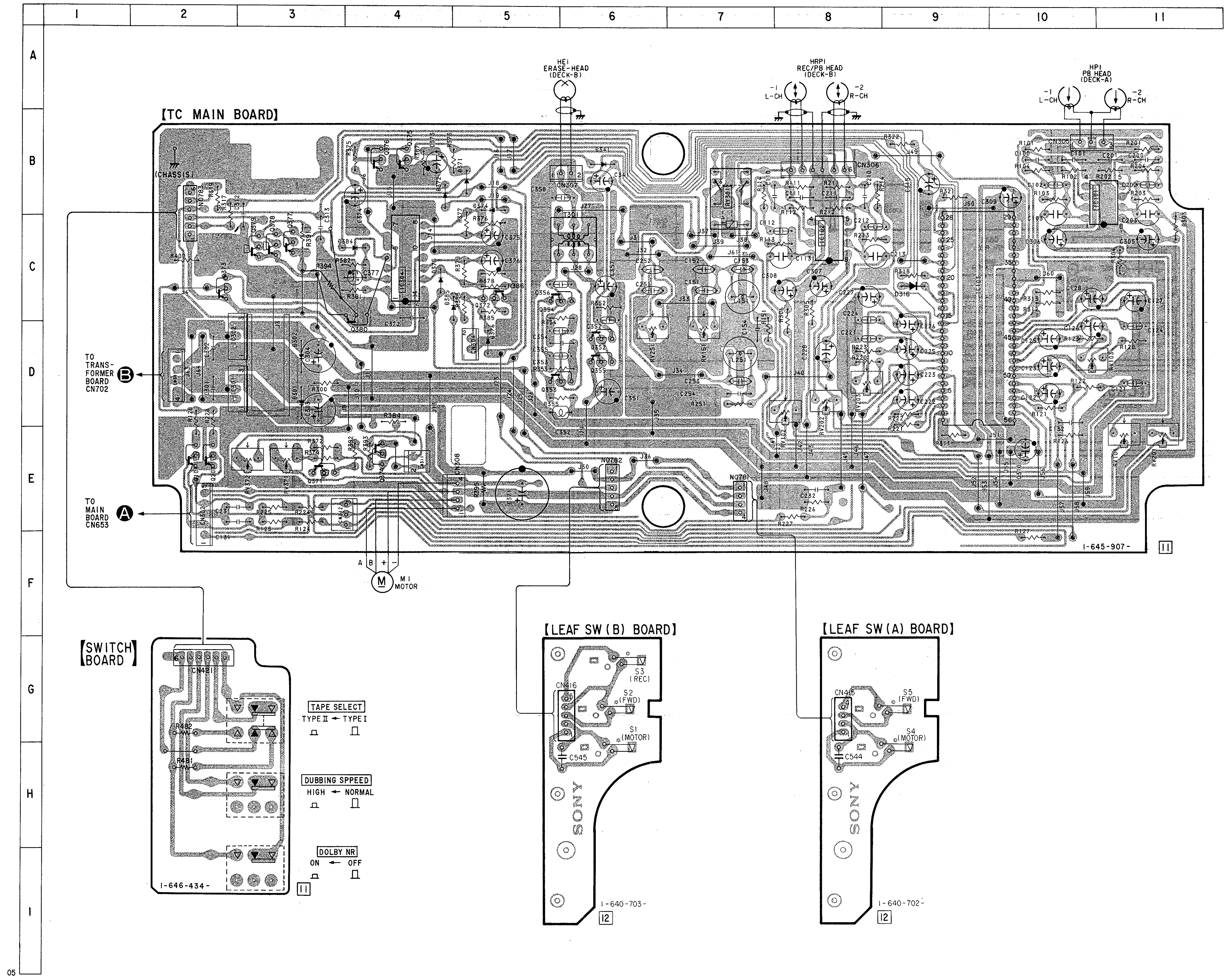
Ref. No.	Location
D301	D-3
D302	D-3
D316	C-9
D341	B-6
D371	B-5
D372	B-4
D374	B-5
D375	C-4
D376	D-5
D384	C-4
D385	C-5
IC101	B-11
IC102	C-8
IC103	C-9
IC301	D-2
IC302	D-2
IC304	C-4
Q101	E-2
Q201	E-2
Q352	D-6
Q353	D-6
Q354	C-6
Q355	D-6
Q371	E-3
Q372	C-5
Q373	C-2
Q374	E-4
Q375	B-4
Q376	B-4
Q377	C-3
Q378	C-3
Q379	C-3
Q380	C-4

Note on Schematic Diagram:

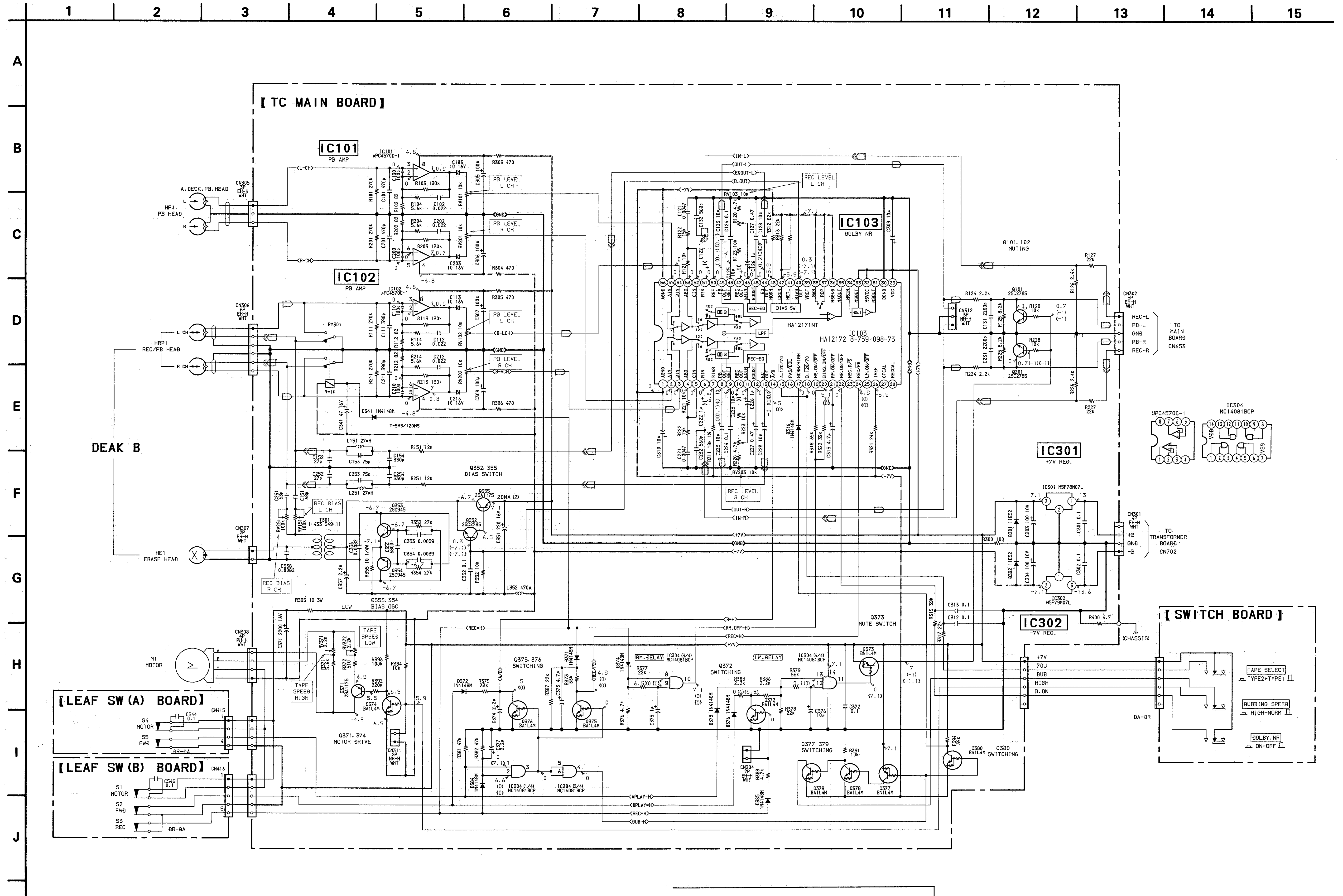
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B + Line.
- ▬ ▬ ▬ : B – Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark :REC (COMMON)
  ( ) :DECK A PB
  ≪ ≫ :DECK B PB
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD
  ▷ : PB (DECK B)
  ▷▷ : REC (DECK B)



1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
HE1 ERASE HEAD (DECK-B)
HRP1 REC/PB HEAD (DECK-B)
HP1 PB HEAD (DECK-A)
L-CH
R-CH
[TC MAIN BOARD]
(CHASSIS)
TO TRANS-FORMER BOARD CN702
B
TO MAIN BOARD CN655
A
M1 MOTOR
1-645-907-
11
[SWITCH BOARD]
TAPE SELECT
TYPE II ← TYPE I
DUBBING SPPEED
HIGH ← NORMAL
DOLBY NR
ON ← OFF
1-646-434-
11
[LEAF SW(B) BOARD]
S3 (REC)
S2 (FWD)
S1 (MOTOR)
C545
SONY
1-640-703-
12
[LEAF SW(A) BOARD]
S5 (FWD)
S4 (MOTOR)
C544
SONY
1-640-702-
12
05

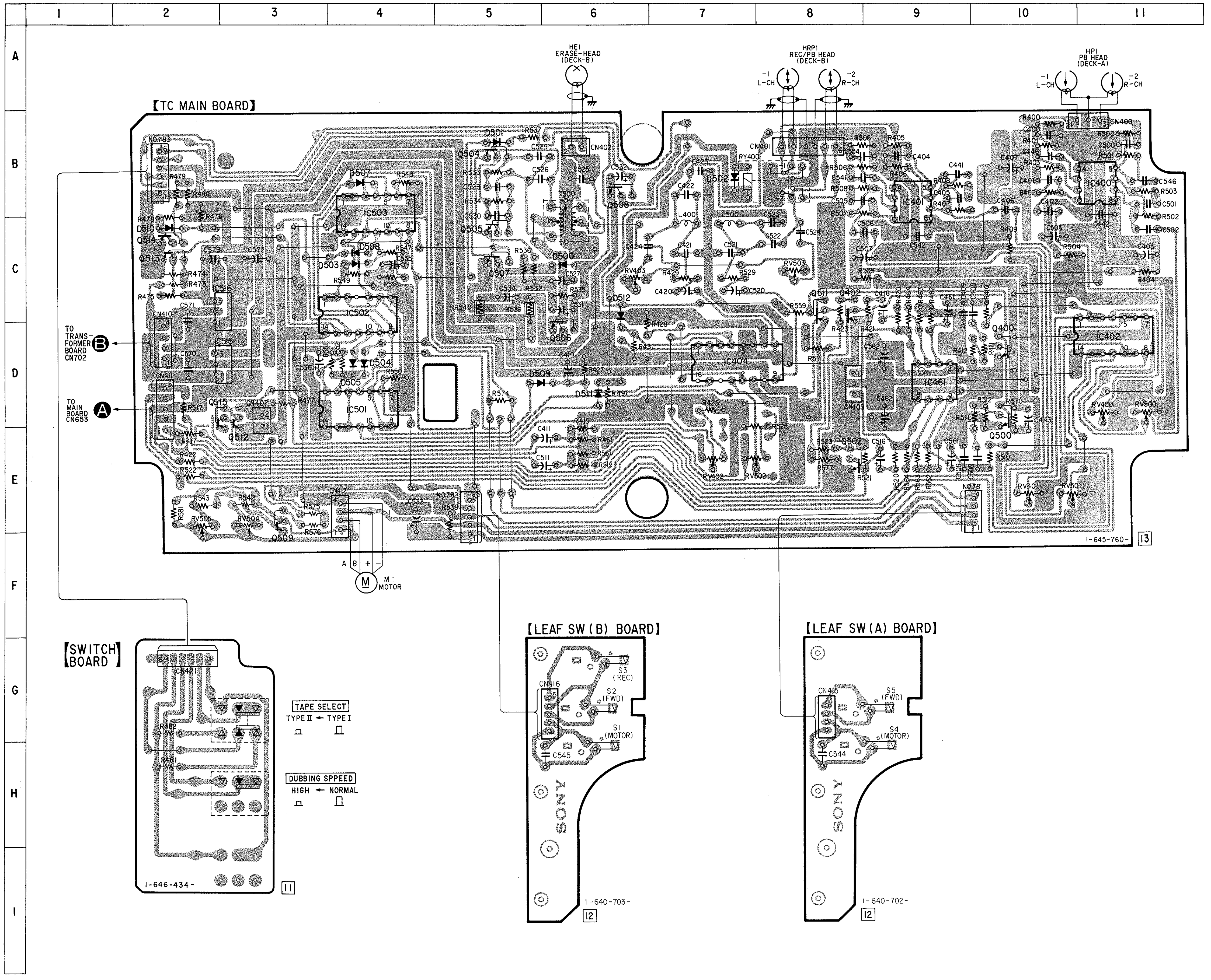


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
[TC MAIN BOARD]
IC101
PB AMP
IC102
PB AMP
IC103
DOLBY NR
HA12172 8-759-098-73
PB LEVEL L CH
PB LEVEL R CH
REC LEVEL L CH
REC LEVEL R CH
REC BIAS L CH
REC BIAS R CH
HP1 PB HEAD
A.DECK,PB.HEAD
HRP1 REC/PB HEAD
HE1 ERASE HEAD
DEAK B
Q353, 354 BIAS OSC
Q352, 355 BIAS SWITCH
Q101, 102 MUTING
TO MAIN BOARD CN655
REC-L
PB-L
GND
PB-R
REC-R
UPC4570C-1
IC304 MC14081BCP
IC301
+7V REG.
IC302
-7V REG.
TO TRANSFORMER BOARD CN702
(CHASSIS)
M1 MOTOR
TAPE SPEED HIGH
TAPE SPEED LOW
Q371, 374 MOTOR DRIVE
Q375, 376 SWITCHING
Q372 SWITCHING
Q373 MUTE SWITCH
Q377-379 SWITCHING
Q380 SWITCHING
[LEAF SW(A) BOARD]
S4 MOTOR
S5 FWD
[LEAF SW(B) BOARD]
S1 MOTOR
S2 FWD
S3 REC
[SWITCH BOARD]
TAPE SELECT TYPE II ← TYPE I
DUBBING SPEED HIGH ← NORM
DOLBY NR ON ← OFF

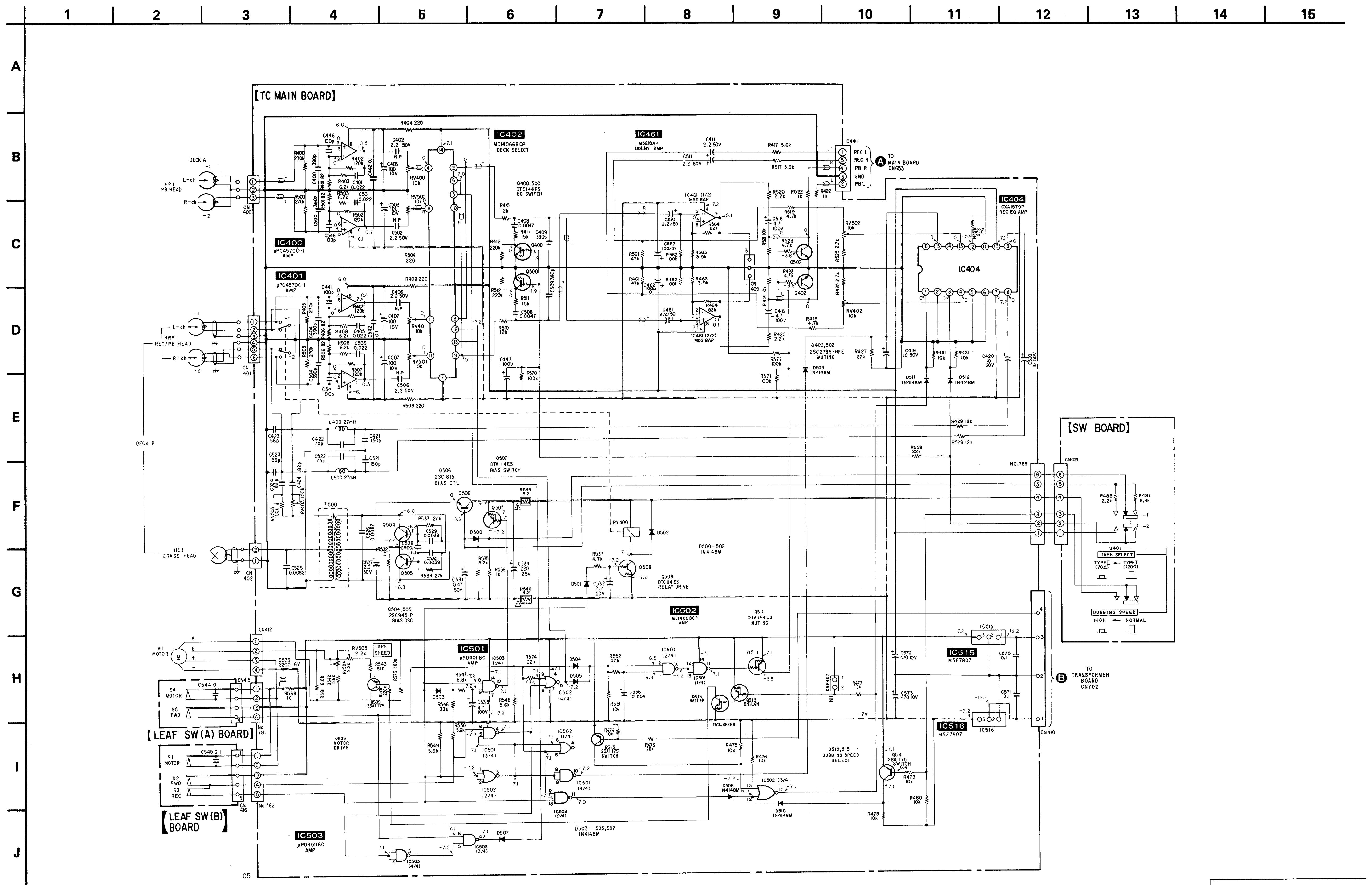
3-6. CASSETTE DECK SECTION PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM (E MODEL)

- **Semiconductor Location**

Ref. No.	Location
D500	C-6
D501	B-5
D502	B-7
D503	C-4
D504	D-4
D505	D-4
D507	B-4
D508	C-4
D509	D-6
D510	C-2
D511	D-6
D512	C-6
IC400	B-11
IC401	B-9
IC402	D-11
IC404	D-7
IC461	D-9
IC501	D-4
IC502	C-4
IC503	B-4
IC515	D-3
IC516	C-3
Q400	D-10
Q402	C-8
Q500	D-10
Q502	E-8
Q504	B-5
Q505	C-5
Q506	D-6
Q507	C-5
Q508	B-6
Q509	E-3
Q511	C-8
Q512	D-3
Q513	C-2
Q514	C-2
Q515	D-3


【TC MAIN BOARD】
HE1 ERASE HEAD (DECK-B)
HRP1 REC/PB HEAD (DECK-B)
HP1 PB HEAD (DECK-A)
TO TRANSFORMER BOARD CN702
TO MAIN BOARD CN653
M1 MOTOR
1-645-760-
【SWITCH BOARD】
TAPE SELECT
TYPE II ← TYPE I
DUBBING SPEED
HIGH ← NORMAL
1-646-434-
【LEAF SW(B) BOARD】
S3 (REC)
S2 (FWD)
S1 (MOTOR)
SONY
1-640-703-
【LEAF SW(A) BOARD】
S5 (FWD)
S4 (MOTOR)
SONY
1-640-702-

Note on Printed Wiring Board:
- ○—— : parts extracted from the component side.


【TC MAIN BOARD】
IC400
IC401
IC402 MC14066BCP DECK SELECT
IC461
IC404
IC501
IC502
IC503
IC515
IC516
HP1 PB HEAD
HRP1 REC/PB HEAD
HE1 ERASE HEAD
DECK A
DECK B
M1 MOTOR
TO MAIN BOARD CN653
TO TRANSFORMER BOARD CN702
【SW BOARD】
TAPE SELECT
DUBBING SPEED
HIGH ← NORMAL
【LEAF SW(A) BOARD】
【LEAF SW(B) BOARD】

SECTION 4
EXPLODED VIEWS

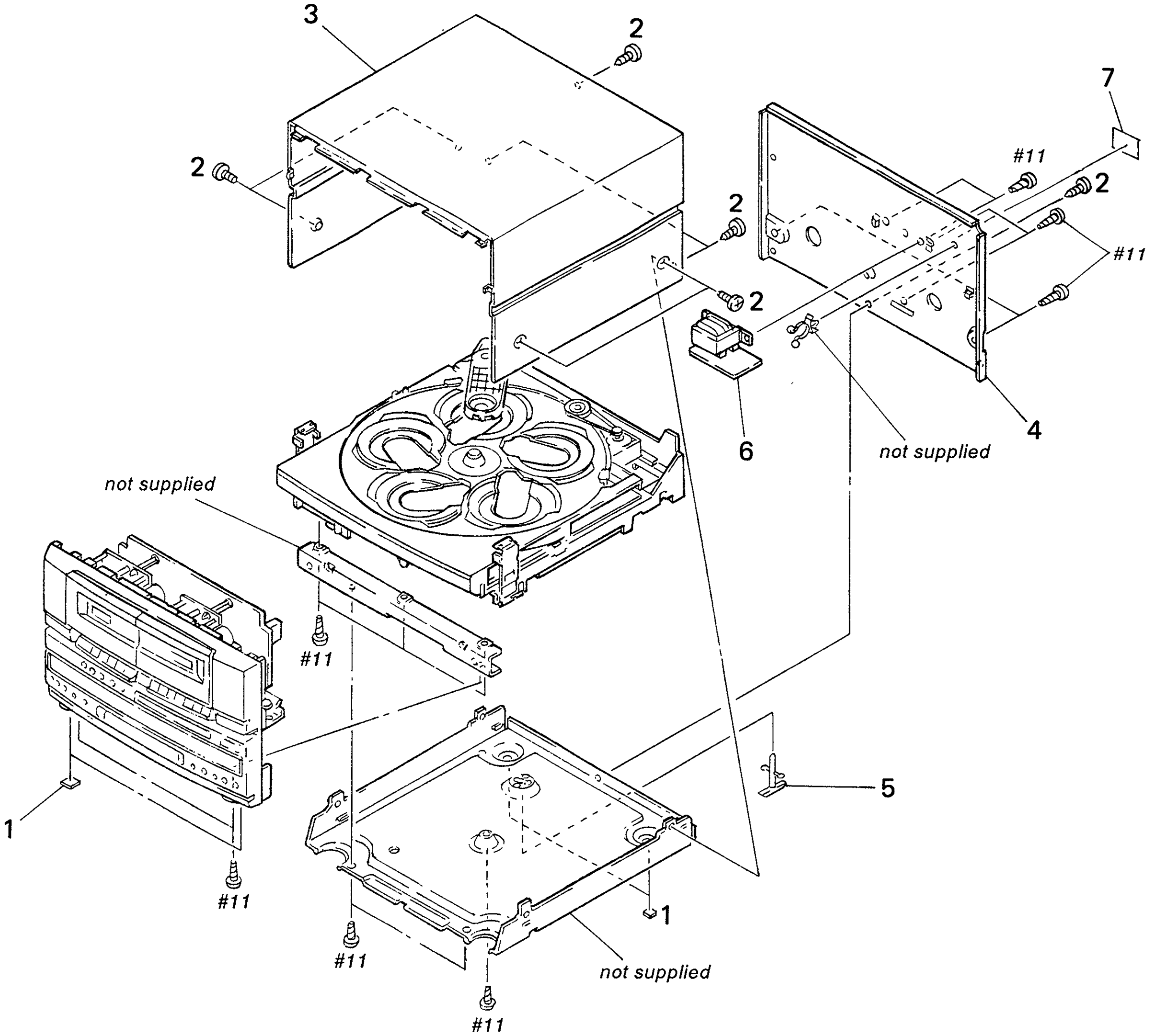
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Items marked "＊" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviation
  IT: Italian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

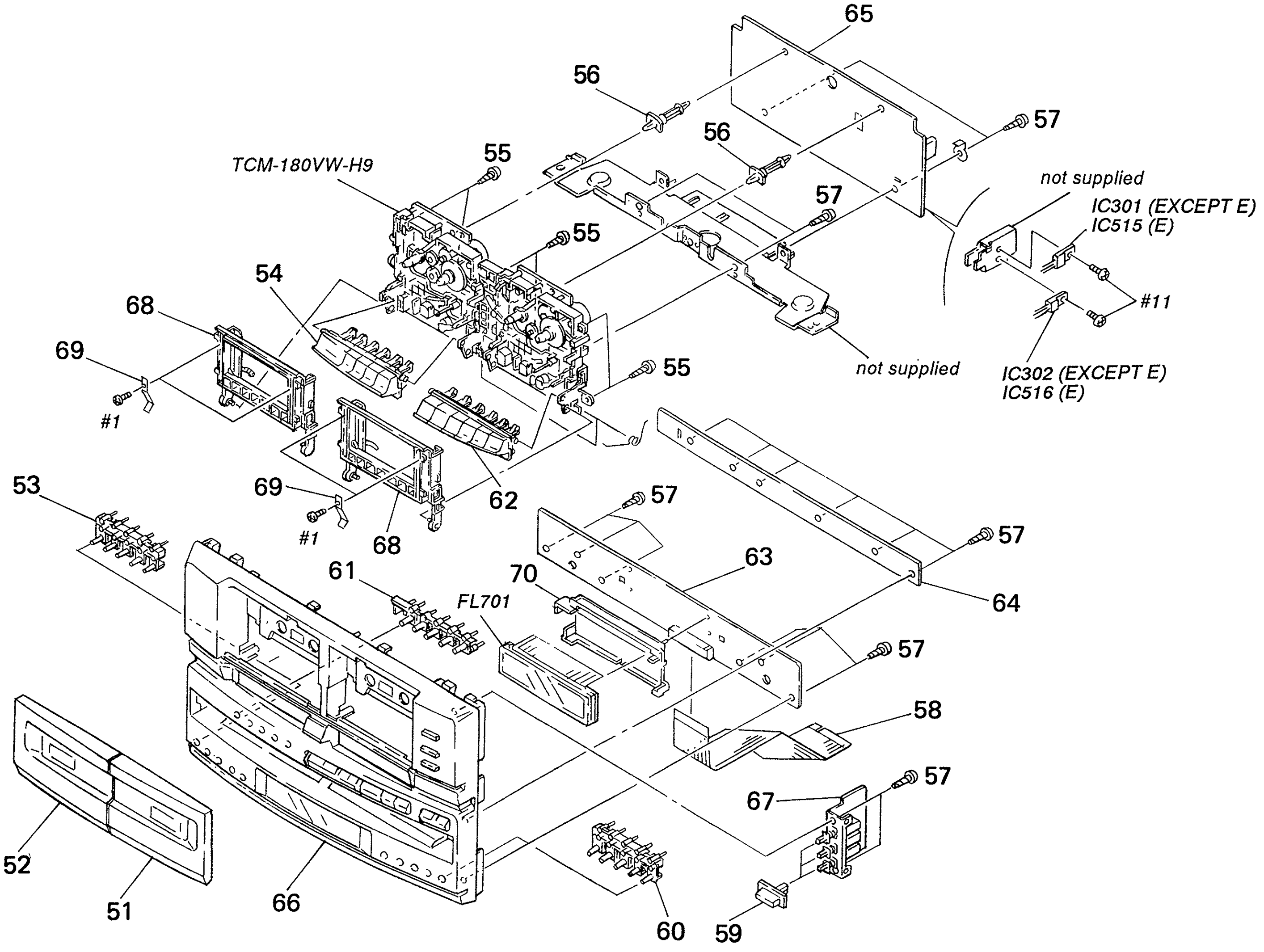
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

(1) CASE SECTION



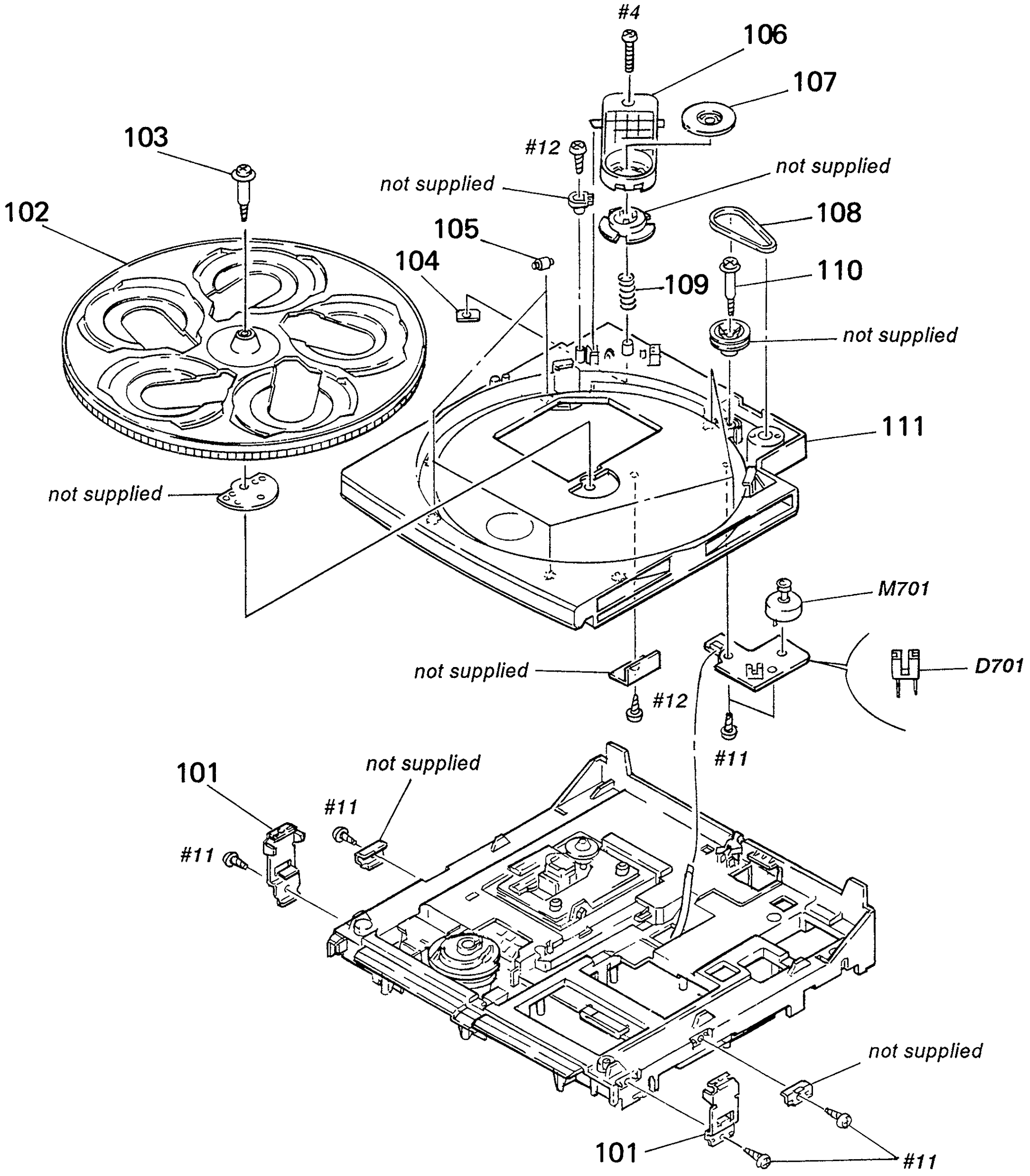
Ref. No.	Part No.	Description	Remark
1	4-948-236-01	CUSHION (107)	
2	3-704-366-01	SCREW (CASE) (M3X8)	
* 3	4-955-795-11	CASE	
* 4	4-955-796-01	PANEL, BACK (AEP, UK, IT)	
* 4	4-955-796-21	PANEL, BACK (US, Canadian)	
* 4	4-955-796-31	PANEL, BACK (E)	
5	4-937-945-01	PLATE (TRANSPORT), LOCK	
* 6	1-646-433-11	TRANSFORMER BOARD	
* 7	4-941-548-01	LABEL, CLASS 1 (AEP, UK, E, IT)	

(2) FRONT PANEL ASSEMBLY SECTION


65
56
57
56
55
TCM-180VW-H9
57
not supplied
IC301 (EXCEPT E)
IC515 (E)
55
54
68
#11
69
55
not supplied
IC302 (EXCEPT E)
IC516 (E)
#1
53
69
62
57
#1
68
57
61
70
63
FL701
64
57
58
57
67
52
51
66
60
59

Ref. No.	Part No.	Description	Remark
51	X-4943-185-1	LID (B) ASSY, CASSETTE	
52	X-4943-184-1	LID (A) ASSY, CASSETTE	
53	4-956-743-01	BUTTON (CDM-E)	
54	4-955-790-01	BUTTON (MD-A)	
55	4-951-620-11	SCREW (2.6X10), +BVTP	
* 56	4-924-098-81	HOLDER, PC BOARD	
57	4-951-620-01	SCREW (2.6X8), +BVTP	
58	1-751-055-31	WIRE (FLAT TYPE) (37 CORE)	
59	4-948-257-01	BUTTON (DDT)	
60	4-955-786-01	BUTTON (CDM-C)	
61	4-955-793-01	BUTTON (DDM-D)	
62	4-955-791-01	BUTTON (MD-B)	
* 63	1-646-432-11	PANEL-B BOARD	
* 64	1-646-431-11	PANEL-U BOARD	
* 65	A-4360-824-A	TC MAIN BOARD, COMPLETE (EXCEPT E)	
* 65	A-4360-825-A	TC MAIN BOARD, COMPLETE (E)	
66	X-4943-186-1	PANEL ASSY, FRONT (US, Canadian, AEP, UK, IT)	
66	X-4943-187-1	PANEL ASSY, FRONT (E)	
* 67	A-4356-622-A	SW BOARD, COMPLETE (UK)	
68	3-358-266-02	HOLDER, CASSETTE	
69	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF	
70	4-955-792-01	HOLDER (5M), FL TUBE	
FL701	1-519-721-31	INDICATOR TUBE, FLUORESCENT	
IC301	8-759-071-48	IC TA7807S	
IC302	8-759-604-95	IC M5F79M07	
IC515	8-759-605-00	IC M5F78M07	
IC516	8-759-604-95	IC M5F79M07	

(3) TURNTABLE ASSEMBLY SECTION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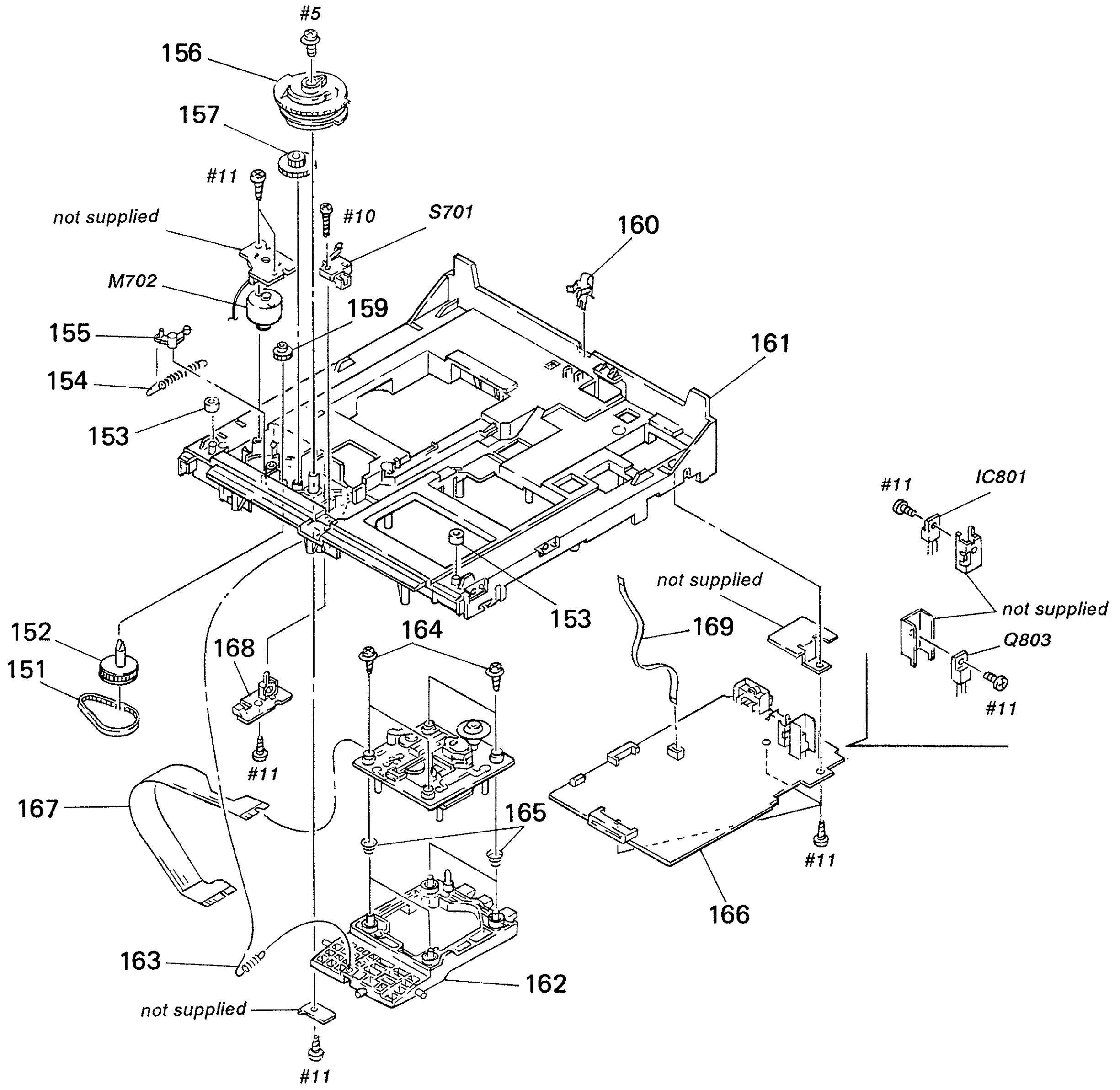
M701
D701
not supplied
#12
#11
101
not supplied
#11
#11
not supplied
101
#11

Ref. No.	Part No.	Description	Remark
* 101	4-955-798-01	BRACKET (CDM)	
102	4-926-384-01	SCREW, STEP	
* 103	4-926-383-01	TABLE (B), DISK	
* 104	4-926-388-01	BRACKET (ADJUSTMENT)	
105	X-4924-457-1	ROLLER ASSY	
* 106	4-930-506-02	BRACKET (PRESS PULLEY)	
* 107	1-452-538-11	MAGNET	
108	4-926-399-01	BELT	
109	4-926-395-01	SPRING, COMPRESSION	
110	4-923-597-01	SCREW, STEP	
* 111	4-955-787-01	TABLE, DISK	
D701	8-719-970-19	DIODE GP-1A521	
M701	A-4604-849-A	MOTOR ASSY, ROTARY	

(4) CHASSIS SECTION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M702
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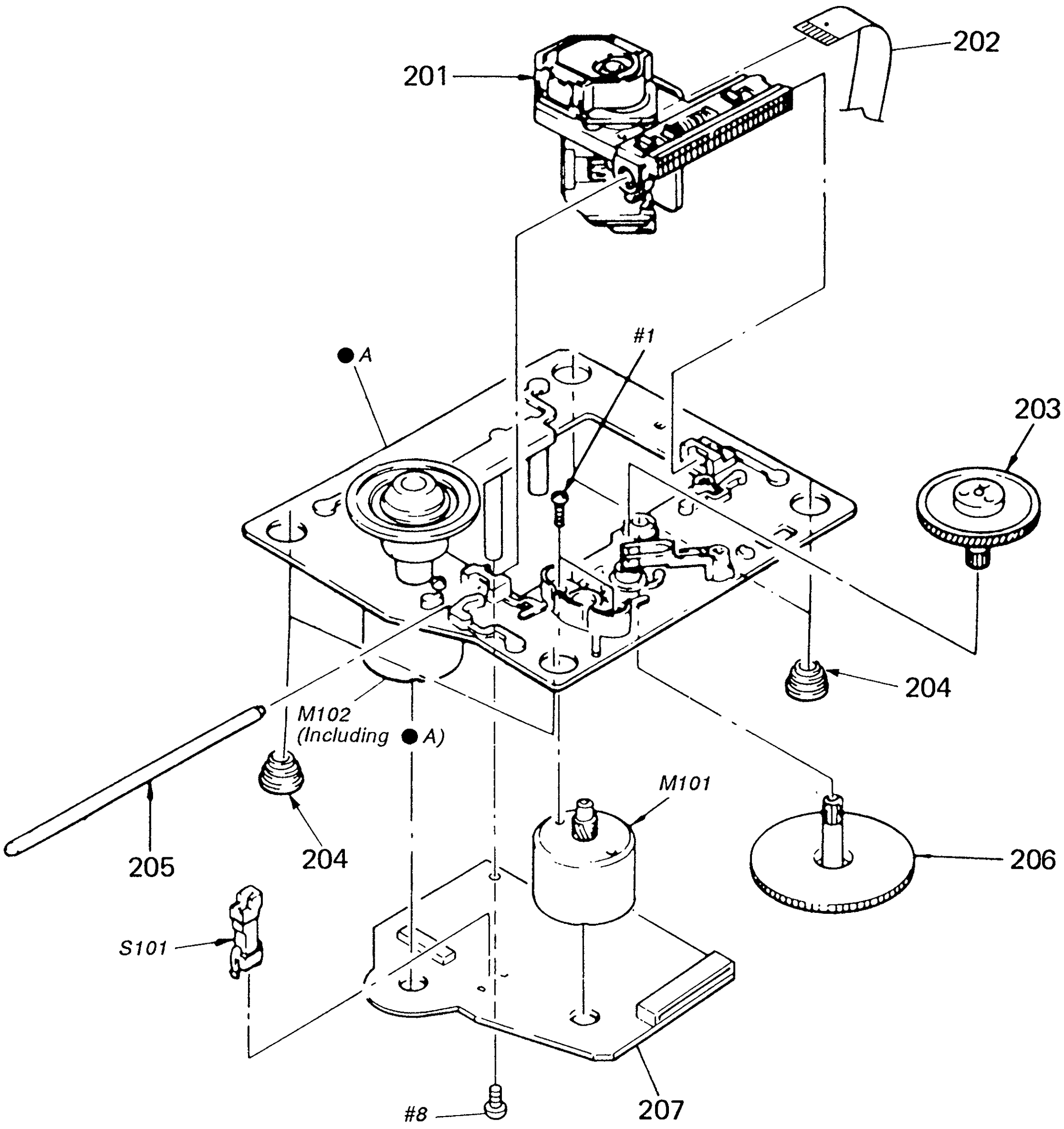
161
153
#11
IC801
153
not supplied
not supplied
152
168
164
169
Q803
151
#11
#11
167
165
#11
166
163
162
not supplied
#11

Ref. No.	Part No.	Description	Remark
151	4-944-490-01	BELT (TIMING)	
152	4-934-375-01	GEAR (LOADING B)	
* 153	4-951-619-01	CUSHION (A)	
154	4-924-412-01	SPRING (B), TENSION	
155	4-917-519-11	LEVER, SET	
156	4-934-391-01	GEAR (LOADING A)	
157	4-934-381-01	GEAR (LOADING C)	
159	X-4941-529-1	PULLEY ASSY	
* 160	4-943-996-01	SPRING, LEAF	
* 161	4-943-997-31	CHASSIS	
* 162	4-934-373-01	BRACKET (BU)	
163	4-937-911-01	SPRING, TENSION	
164	4-933-134-01	SCREW (+PTPWH M2.6X6)	
165	4-949-385-01	SPRING (D), COIL	
* 166	A-4356-565-A	MAIN BOARD, COMPLETE (AEP, E, IT)	
* 166	A-4356-613-A	MAIN BOARD, COMPLETE (UK)	
* 166	A-4356-631-A	MAIN BOARD, COMPLETE (US, Canadian)	
167	1-537-476-11	JUMPER, FILM (WITH TERMINAL)	
168	1-638-731-11	OPEN/UP SW BOARD	
169	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
IC801	8-759-071-48	IC TA7807S	
M702	A-4604-847-A	MOTOR ASSY, LOADING	
Q803	8-729-141-83	TRANSISTOR 2SB1094-LK	
S701	1-572-713-11	SWITCH, PUSH (WITH CONNECTOR)	

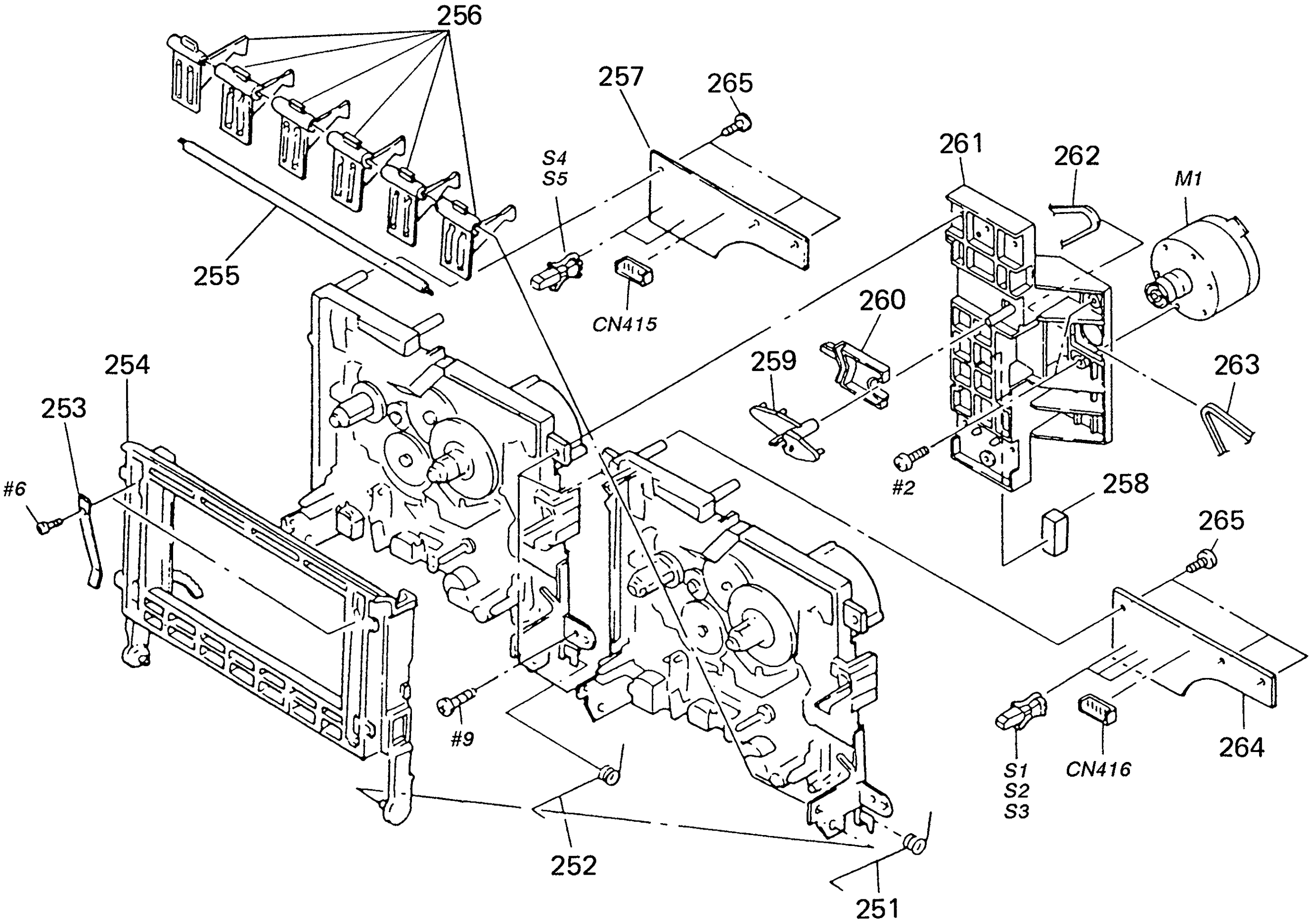
(5) OPTICAL PICK-UP BLOCK ASSEMBLY (BU-5BD3/M)



Ref. No.	Part No.	Description	Remark
⚠ 201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
203	4-917-567-01	GEAR (M)	
205	4-917-565-01	SHAFT, SLED	
206	4-917-564-01	GEAR (P), FLATNESS	
* 207	A-4617-908-A	BD BOARD, COMPLETE	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	BASE (OUTSERT) ASSY (SPINDLE MOTOR)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

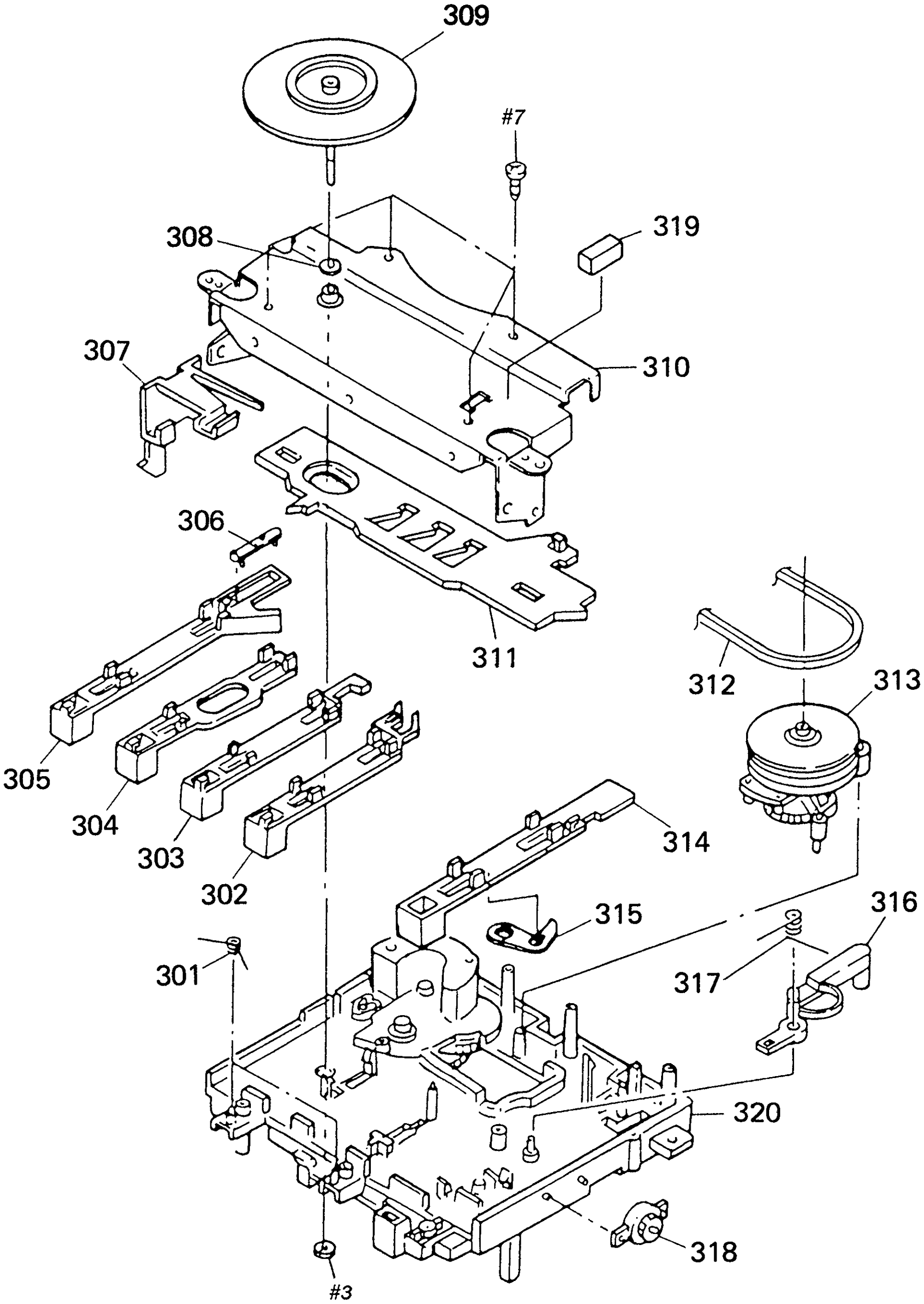
(6) MECHANISM SECTION-1
(TCM-180VW-H9)



Ref. No.	Part No.	Description	Remark
251	3-358-287-01	SPRING (LOADING A), TORSION	
252	3-358-229-01	SPRING (LOADING), TORSION	
253	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF	
254	3-358-266-02	HOLDER, CASSETTE	
255	3-371-917-01	SHAFT (BUTTON SHAFT 4)	
256	3-369-335-01	LEVER (BUTTON BASE F)	
* 257	1-640-702-11	LEAF SW (A) BOARD	
* 258	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
259	3-358-203-01	LEVER (TRIGGER)	
260	3-358-202-01	SLIDER (TRIGGER)	
* 261	3-363-930-01	BRACKET (JOINT BASE)	
262	3-358-230-01	BELT (A1)	

Ref. No.	Part No.	Description	Remark
263	3-364-777-01	BELT (WH)	
* 264	1-640-703-11	LEAF SW (B) BOARD	
265	4-951-620-01	SCREW (2.6X8), +BVTP	
* CN415	1-564-497-11	PIN, CONNECTOR 4P	
* CN416	1-564-498-11	PIN, CONNECTOR 5P	
M1	X-3362-377-1	MOTOR (WH) ASSY	
S1	1-571-736-11	SWITCH, LEAF (MOTOR)	
S2	1-571-736-11	SWITCH, LEAF (FWD)	
S3	1-571-736-11	SWITCH, LEAF (REC)	
S4	1-571-736-11	SWITCH, LEAF (MOTOR)	
S5	1-571-736-11	SWITCH, LEAF (FWD)	

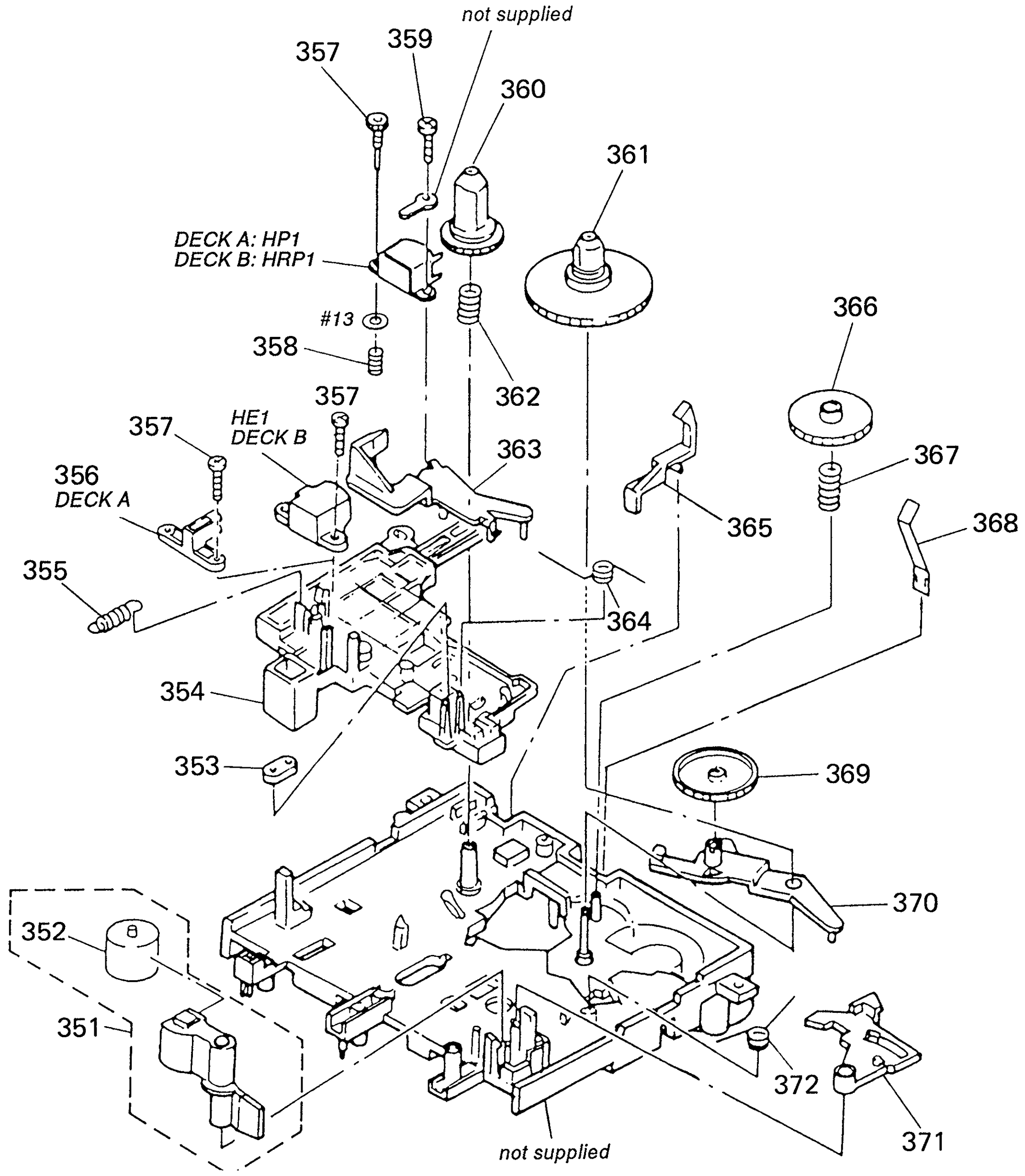
(7) MECHANISM SECTION-2 (TCM-180VW-H9)



Ref. No.	Part No.	Description	Remark
301	3-358-232-01	SPRING (S-P F-R), TORSION	
302	3-358-258-01	SLIDER (REW)	
303	3-358-257-01	SLIDER (FF)	
304	3-358-256-01	SLIDER (STOP/EJECT)	
305	3-358-260-01	SLIDER (PAUSE)	
* 306	3-358-226-01	LEVER (PAUSE LEVER)	
* 307	3-358-261-02	SLIDER (HOLDER LOCK)	
308	3-701-437-01	WASHER	
309	X-3358-205-1	FLYWHEEL (A) ASSY (DECK A)	
309	X-3358-206-1	FLYWHEEL (B) ASSY (DECK B)	
* 310	X-3358-208-1	BRACKET (B) ASSY	

Ref. No.	Part No.	Description	Remark
* 311	3-358-249-01	SLIDER (LOCK PLATE)	
312	3-358-232-01	SPRING (S-P F-R), TORSION	
313	X-3358-202-1	LEVER (FR ARM) ASSY	
314	3-358-259-01	SLIDER (REC)	
* 315	3-358-204-01	LEVER (REC SAFETY) (DECK B)	
316	3-358-286-01	LEVER (MOTOR LEVER)	
317	3-358-214-01	SPRING (LOCK), TORSION (DECK A)	
317	3-358-233-01	SPRING (REC-LOCK), TORSION	
318	3-319-224-51	DAMPER, SMALL	
* 319	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
320	X-3358-207-2	CHASSIS (A) ASSY	

(8) MECHANISM SECTION-3
(TCM-180VW-H9)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357
359
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361
DECK A: HP1
DECK B: HRP1
#13
358
366
362
357
HE1
DECK B
357
363
367
356
DECK A
365
368
355
364
354
353
369
370
352
351
372
371
not supplied

Ref. No.	Part No.	Description	Remark
351	X-3358-204-1	LEVER (PINCH LEVER) ASSY	
352	3-578-143-11	PINCH ROLLER	
* 353	3-358-215-01	BUSHING (WIRE KIT RETAINER)	
354	3-358-265-01	SLIDER (HEAD PC BOARD A)	
355	3-358-217-01	SPRING, TENSION	
* 356	3-363-931-01	GUIDE, TAPE (DECK B)	
357	3-358-288-11	SCREW (T), AZIMUTH	
358	3-358-234-01	SPRING (AZIMUTH), COMPRESSION	
359	3-358-288-01	SCREW (T), AZIMUTH	
360	3-358-248-01	GEAR (SUPPLY REEL)	
361	X-3358-203-1	TABLE (T) ASSY, REEL	
362	3-358-208-01	SPRING (SUPPLY), COMPRESSION	
* 363	3-358-251-01	LEVER (TENSION DETECTION ARM)	

Ref. No.	Part No.	Description	Remark
364	3-358-228-01	SPRING, TORSION	
* 365	3-358-255-01	LEVER (GB LEVER)	
* 366	3-358-224-01	GEAR (FF GEAR)	
367	3-358-207-01	SPRING (FF GEAR), COMPRESSION	
368	3-358-227-01	SPRING, LEAF	
* 369	3-358-284-01	GEAR (TU GEAR)	
* 370	3-358-252-01	LEVER (TU ARM)	
* 371	3-358-253-01	LEVER (SHUT-OFF LEVER)	
372	3-358-243-01	SPRING (TU-SHUT), TORSION	
HE1	1-543-673-11	HEAD, MAGNETIC (ERASE) (DECK B)	
HP1	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK A)	
HRP1	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK B)	

SECTION 5
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Abbreviation
  IT: Italian model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
*	A-4617-908-A	BD BOARD, COMPLETE				
		******************				
		< CAPACITOR >				
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C103	1-126-163-11	ELECT	4.7uF	20%	50V	
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C105	1-126-154-11	ELECT	47uF	20%	6.3V	
C106	1-126-154-11	ELECT	47uF	20%	6.3V	
C107	1-126-154-11	ELECT	47uF	20%	6.3V	
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C111	1-131-367-00	TANTALUM	22uF	10%	20V	
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V	
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V	
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
		< CONNECTOR >				
CN101	1-568-796-11	SOCKET, CONNECTOR 22P				
CN102	1-568-795-11	SOCKET, CONNECTOR 12P				

Ref. No.	Part No.	Description				Remark
		< IC >				
IC101	8-752-058-77	IC CXA1372AQ				
IC102	8-759-822-36	IC LA6532M				
		< JACK >				
J101	1-216-295-00	METAL CHIP	0	5%	1/10W	
J102	1-216-295-00	METAL CHIP	0	5%	1/10W	
		< MOTOR >				
M101	X-4917-504-1	MOTOR ASSY (SLED)				
		< TRANSISTOR >				
Q101	8-729-901-01	TRANSISTOR DTC144EK				
		< RESISTOR >				
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R102	1-216-095-00	METAL CHIP	82K	5%	1/10W	
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES, ADJ, CARBON 10K			
RV102	1-238-016-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			

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Ref. No.	Part No.	Description			Remark
*	1-640-702-11	LEAF SW (A) BOARD *****************			
		< CAPACITOR >			
C544	1-164-159-11	CERAMIC	0.1MF		50V
		< CONNECTOR >			
* CN415	1-564-497-11	PIN, CONNECTOR 4P			
		< SWITCH >			
S4	1-571-736-11	SWITCH, LEAF (MOTOR)			
S5	1-571-736-11	SWITCH, LEAF (FWD)			

****

Ref. No.	Part No.	Description			Remark
*	1-640-703-11	LEAF SW (B) BOARD *****************			
		< CAPACITOR >			
C545	1-164-159-11	CERAMIC	0.1MF		50V
		< CONNECTOR >			
* CN416	1-564-498-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-571-736-11	SWITCH, LEAF (MOTOR)			
S2	1-571-736-11	SWITCH, LEAF (FWD)			
S3	1-571-736-11	SWITCH, LEAF (REC)			

****

Ref. No.	Part No.	Description			Remark
*	1-639-288-11	LOADING MOTOR BOARD ******************			
		< CAPACITOR >			
C705	1-161-375-00	CERAMIC	0.0022uF	20%	50V

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D701	8-719-970-19	DIODE GP1A521			
		< MOTOR >			
M702	A-4604-847-A	MOTOR ASSY, LOADING			

****

Ref. No.	Part No.	Description			Remark
*	A-4356-565-A	MAIN BOARD, COMPLETE (AEP, E, IT) ***********************************			
*	A-4356-613-A	MAIN BOARD, COMPLETE (UK) *************************			
*	A-4365-631-A	MAIN BOARD, COMPLETE (US, Canadian) *********************************			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C501	1-124-477-11	ELECT	47uF	20%	25V
C502	1-164-159-11	CERAMIC	0.1uF		50V
C503	1-164-159-11	CERAMIC	0.1uF		50V
C504	1-164-159-11	CERAMIC	0.1uF		50V
C511	1-136-161-00	FILM	0.047uF	5%	50V
C512	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C513	1-161-494-00	CERAMIC	0.022uF		25V
C514	1-162-306-11	CERAMIC	0.01uF	20%	16V
C515	1-124-902-00	ELECT	0.47uF	20%	50V
C516	1-161-494-00	CERAMIC	0.022uF		25V
C531	1-124-635-00	ELECT	220uF	20%	6.3V
C537	1-126-177-11	ELECT	100uF	20%	10V
C539	1-164-159-11	CERAMIC	0.1uF		50V
C542	1-124-635-00	ELECT	220uF	20%	6.3V
C543	1-164-159-11	CERAMIC	0.1uF		50V
C549	1-164-159-11	CERAMIC	0.1uF		50V
C550	1-124-635-00	ELECT	220uF	20%	6.3V
C551	1-164-159-11	CERAMIC	0.1uF		50V
C553	1-162-195-31	CERAMIC	4.7PF	10%	50V
C554	1-162-195-31	CERAMIC	4.7PF	10%	50V
C557	1-126-177-11	ELECT	100uF	20%	10V
C558	1-164-159-11	CERAMIC	0.1uF		50V
C601	1-124-472-11	ELECT	470uF	20%	10V
C602	1-164-159-11	CERAMIC	0.1uF		50V
C603	1-124-478-11	ELECT	100uF	20%	25V
C604	1-124-478-11	ELECT	100uF	20%	25V
C608	1-164-159-11	CERAMIC	0.1uF		50V
C609	1-164-159-11	CERAMIC	0.1uF		50V
C614	1-164-159-11	CERAMIC	0.1uF		50V
C622	1-161-494-00	CERAMIC	0.022uF		25V
C626	1-162-294-31	CERAMIC	0.001uF	10%	50V
C627	1-162-294-31	CERAMIC	0.001uF	10%	50V
C628	1-162-294-31	CERAMIC	0.001uF	10%	50V
C630	1-162-294-31	CERAMIC	0.001uF	10%	50V
C631	1-162-294-31	CERAMIC	0.001uF	10%	50V
C632	1-162-294-31	CERAMIC	0.001uF	10%	50V

Ref. No.	Part No.	Description				Remark
C661	1-162-283-31	CERAMIC	120PF	10%	50V	
C663	1-162-282-31	CERAMIC	100PF	10%	50V	
C664	1-162-282-31	CERAMIC	100PF	10%	50V	
C665	1-162-282-31	CERAMIC	100PF	10%	50V	
C666	1-162-282-31	CERAMIC	100PF	10%	50V	
C667	1-162-283-31	CERAMIC	120PF	10%	50V	
C668	1-124-907-11	ELECT	10uF	20%	50V	
C669	1-124-907-11	ELECT	10uF	20%	50V	
C671	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C672	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C673	1-130-471-00	MYLAR	0.001uF	5%	50V	
C674	1-130-471-00	MYLAR	0.001uF	5%	50V	
C675	1-126-176-11	ELECT	220uF	20%	10V	
C676	1-126-176-11	ELECT	220uF	20%	10V	
C677	1-124-477-11	ELECT	47uF	20%	25V	
C678	1-124-477-11	ELECT	47uF	20%	25V	
C679	1-164-159-11	CERAMIC	0.1uF		50V	
C680	1-164-159-11	CERAMIC	0.1uF		50V	
C681	1-164-159-11	CERAMIC	0.1uF		50V	
C688	1-161-494-00	CERAMIC	0.022uF		25V	
C690	1-161-494-00	CERAMIC	0.022uF		25V	
C800	1-124-563-11	ELECT	2200uF	20%	25V	
C801	1-126-176-11	ELECT	220uF	20%	10V	
C802	1-124-572-11	ELECT	100uF	20%	63V	
C803	1-124-907-11	ELECT	10uF	20%	50V	
C804	1-128-548-11	ELECT	4700uF	20%	25V	
C805	1-128-548-11	ELECT	4700uF	20%	25V	
C806	1-164-159-11	CERAMIC	0.1uF		50V	
C807	1-124-907-11	ELECT	10uF	20%	50V	
C808	1-124-472-11	ELECT	470uF	20%	10V	
C809	1-124-472-11	ELECT	470uF	20%	10V	
C811	1-124-443-00	ELECT	100uF	20%	10V	
C813	1-164-159-11	CERAMIC	0.1uF		50V	
C815	1-124-927-11	ELECT	4.7uF	20%	100V	
C816	1-124-907-11	ELECT	10uF	20%	50V	
C817	1-124-443-00	ELECT	100uF	20%	10V	
C822	1-164-159-11	CERAMIC	0.1uF		50V	
C823	1-164-159-11	CERAMIC	0.1uF		50V	
C833	1-124-916-11	ELECT	22uF	20%	63V	
C888	1-124-907-11	ELECT	10uF	20%	50V	
C901	1-162-286-31	CERAMIC	220PF	10%	50V	
C902	1-162-286-31	CERAMIC	220PF	10%	50V	
C903	1-130-467-00	MYLAR	470PF	5%	50V	
C904	1-130-467-00	MYLAR	470PF	5%	50V	
C911	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C912	1-164-159-11	CERAMIC	0.1uF		50V	

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN421	1-568-955-11	PIN, CONNECTOR 6P	
* CN601	1-691-902-21	CONNECTOR, FFC/FPC 37P	
* CN603	1-568-824-11	SOCKET, CONNECTOR 5P	
* CN604	1-568-943-11	PIN, CONNECTOR 5P	
CN605	1-691-895-21	CONNECTOR, FFC/FPC 18P	
* CN652	1-564-524-11	PLUG, CONNECTOR 9P	
* CN653	1-564-520-11	PLUG, CONNECTOR 5P	
* CN655	1-565-291-11	SOCKET, CONNECTOR 13P (SYSTEM CONTROL)	
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D801	8-719-200-82	DIODE 11ES2	
D802	8-719-933-50	DIODE HZS7C2L	
D808	8-719-000-75	DIODE UZL-7L1	
D810	8-719-010-12	DIODE UZ-2.7BS	
D811	8-719-000-75	DIODE UZL-7L1	
D841	8-719-500-36	DIODE D2SB20	
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR OUH	
FB602	1-412-473-21	INDUCTOR OUH	
FB603	1-412-473-21	INDUCTOR OUH	
FB604	1-412-473-21	INDUCTOR OUH	
FB605	1-412-473-21	INDUCTOR OUH	
FB606	1-412-473-21	INDUCTOR OUH	
FB607	1-412-473-21	INDUCTOR OUH	
FB901	1-412-473-21	INDUCTOR OUH	
		< IC >	
IC501	8-752-838-85	IC CXP50120-024Q	
IC502	8-752-352-93	IC CXD2500BQ	
IC503	8-759-821-32	IC CXA-1291P	
IC504	8-752-355-45	IC CXD2565M	
IC505	8-759-634-51	IC M5218AP	
IC506	8-759-634-51	IC M5218AP	
IC507	8-759-000-49	IC MC14066BCP	
IC801	8-759-071-48	IC TA7807S	
IC802	8-759-633-42	IC M5293L	
IC803	8-759-630-21	IC M5290P-16	
		< COIL >	
L501	1-408-417-00	INDUCTOR 47uH	

MAIN

Ref. No.	Part No.	Description				Remark
		< IC LINK >				
⚠PS601	1-532-637-00	LINK, IC 1.0A				(AEP, UK, E, IT)
⚠PS602	1-532-685-00	LINK, IC				(AEP, UK, E, IT)
		< TRANSISTOR >				
Q541	8-729-900-65	TRANSISTOR DTA144ES				
Q542	8-729-900-65	TRANSISTOR DTA144ES				
Q543	8-729-900-65	TRANSISTOR DTA144ES				
Q601	8-729-900-89	TRANSISTOR DTC144ES				
Q673	8-729-141-30	TRANSISTOR 2SC3623A-LK				
Q674	8-729-141-30	TRANSISTOR 2SC3623A-LK				
Q675	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q676	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q677	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q678	8-729-900-89	TRANSISTOR DTC144ES				
Q679	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q802	8-729-140-96	TRANSISTOR 2SD774-34				
Q803	8-729-141-83	TRANSISTOR 2SB1094-LK				
Q809	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		< RESISTOR >				
R501	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R502	1-249-417-11	CARBON	1K	5%	1/4W	F
R503	1-249-417-11	CARBON	1K	5%	1/4W	F
R504	1-249-417-11	CARBON	1K	5%	1/4W	F
R511	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R512	1-249-429-11	CARBON	10K	5%	1/4W	
R513	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R514	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-249-417-11	CARBON	1K	5%	1/4W	F
R516	1-249-417-11	CARBON	1K	5%	1/4W	F
R517	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R518	1-249-441-11	CARBON	100K	5%	1/4W	
R531	1-249-417-11	CARBON	1K	5%	1/4W	F
R539	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R541	1-249-405-11	CARBON	100	5%	1/4W	F
R543	1-249-441-11	CARBON	100K	5%	1/4W	
R544	1-249-441-11	CARBON	100K	5%	1/4W	
R547	1-249-441-11	CARBON	100K	5%	1/4W	
R601	1-249-433-11	CARBON	22K	5%	1/4W	
R602	1-249-433-11	CARBON	22K	5%	1/4W	
R603	1-249-433-11	CARBON	22K	5%	1/4W	
R604	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R605	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R606	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R608	1-249-441-11	CARBON	100K	5%	1/4W	
R609	1-249-440-11	CARBON	82K	5%	1/4W	
R610	1-247-874-11	CARBON	62K	5%	1/4W	
R611	1-249-435-11	CARBON	33K	5%	1/4W	
R612	1-247-878-00	CARBON	91K	5%	1/4W	
R613	1-247-864-11	CARBON	24K	5%	1/4W	
R614	1-247-880-11	CARBON	110K	5%	1/4W	
R615	1-249-440-11	CARBON	82K	5%	1/4W	
R616	1-247-876-11	CARBON	75K	5%	1/4W	
R621	1-249-393-11	CARBON	10	5%	1/4W	F
R622	1-249-393-11	CARBON	10	5%	1/4W	F
R625	1-249-429-11	CARBON	10K	5%	1/4W	
R626	1-249-429-11	CARBON	10K	5%	1/4W	
R627	1-249-429-11	CARBON	10K	5%	1/4W	
R628	1-249-429-11	CARBON	10K	5%	1/4W	
R629	1-249-429-11	CARBON	10K	5%	1/4W	
R630	1-249-429-11	CARBON	10K	5%	1/4W	
R631	1-249-429-11	CARBON	10K	5%	1/4W	
R632	1-249-429-11	CARBON	10K	5%	1/4W	
R645	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R646	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R652	1-249-433-11	CARBON	22K	5%	1/4W	
R653	1-249-433-11	CARBON	22K	5%	1/4W	
R655	1-249-433-11	CARBON	22K	5%	1/4W	
R656	1-249-433-11	CARBON	22K	5%	1/4W	
R661	1-247-862-11	CARBON	20K	5%	1/4W	
R662	1-247-862-11	CARBON	20K	5%	1/4W	
R663	1-247-862-11	CARBON	20K	5%	1/4W	
R664	1-247-862-11	CARBON	20K	5%	1/4W	
R665	1-249-433-11	CARBON	22K	5%	1/4W	
R666	1-249-433-11	CARBON	22K	5%	1/4W	
R667	1-249-433-11	CARBON	22K	5%	1/4W	
R668	1-249-433-11	CARBON	22K	5%	1/4W	
R669	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R670	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R671	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R672	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R675	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R676	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R677	1-249-441-11	CARBON	100K	5%	1/4W	
R678	1-249-441-11	CARBON	100K	5%	1/4W	
R681	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R682	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R683	1-249-409-11	CARBON	220	5%	1/4W	F
R684	1-249-409-11	CARBON	220	5%	1/4W	F
R690	1-249-429-11	CARBON	10K	5%	1/4W	
R691	1-249-417-11	CARBON	1K	5%	1/4W	F
R692	1-249-429-11	CARBON	10K	5%	1/4W	
R693	1-249-433-11	CARBON	22K	5%	1/4W	
R694	1-249-393-11	CARBON	10	5%	1/4W	F
R695	1-249-433-11	CARBON	22K	5%	1/4W	
R696	1-249-433-11	CARBON	22K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R697	1-249-433-11	CARBON	22K	5%	1/4W	
R755	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R756	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R757	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R758	1-249-432-11	CARBON	18K	5%	1/4W	
R759	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R760	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R761	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R762	1-249-432-11	CARBON	18K	5%	1/4W	
R766	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R767	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R768	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R769	1-249-432-11	CARBON	18K	5%	1/4W	
R801	1-249-435-11	CARBON	33K	5%	1/4W	
R813	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R814	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R815	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R819	1-249-410-11	CARBON	270	5%	1/4W	F
R820	1-249-438-11	CARBON	56K	5%	1/4W	
R821	1-249-429-11	CARBON	10K	5%	1/4W	
R826	1-249-417-11	CARBON	1K	5%	1/4W	F
R827	1-249-410-11	CARBON	270	5%	1/4W	F
R852	1-249-429-11	CARBON	10K	5%	1/4W	

< VIBRATOR >

X501	1-579-833-21	VIBRATOR, CRYSTAL (33MHz)

****

1-638-731-11 OPEN/UP SW BOARD
****

< CONNECTOR >

* CN705	1-566-214-11	PIN, CONNECTOR (PC BOARD) 2P

< SWITCH >

S702	1-571-300-21	SWITCH, ROTARY (OPEN/UP)

****

* 1-646-432-11 PANEL-B BOARD
****

*	4-955-792-01	HOLDER (5M), FL TUBE

< CONNECTOR >

* CN750	1-691-902-21	CONNECTOR, FFC/FPC 37P

< FILTER >

FL701	1-519-721-31	INDICATOR TUBE, FLUORESCENT

< RESISTOR >

R751	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R752	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R753	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R754	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R763	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R764	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R765	1-249-427-11	CARBON	6.8K	5%	1/4W	F

< SWITCH >

S750	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)
S751	1-554-303-21	SWITCH, TACTILE (CHECK)
S752	1-554-303-21	SWITCH, TACTILE (CLEAR)
S753	1-554-303-21	SWITCH, TACTILE (FADER)
S754	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)
S755	1-554-303-21	SWITCH, TACTILE (REPEAT)
S765	1-554-303-21	SWITCH, TACTILE (PLAY MODE:PROGRAM)
S766	1-554-303-21	SWITCH, TACTILE (PLAY MODE:SHUFFLE)
S767	1-554-303-21	SWITCH, TACTILE (PLAY MODE:CONTINUE)
S780	1-554-303-21	SWITCH, TACTILE (TIME)

****

* 1-646-431-11 PANEL-U BOARD
****

< CONNECTOR >

CN752	1-506-469-11	PIN, CONNECTOR 4P

< SWITCH >

S756	1-554-303-21	SWITCH, TACTILE (AMS:⏮)
S757	1-554-303-21	SWITCH, TACTILE (AMS:⏭)
S758	1-554-303-21	SWITCH, TACTILE (◀◀)
S759	1-554-303-21	SWITCH, TACTILE (▶▶)
S760	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)
S761	1-554-303-21	SWITCH, TACTILE (▷)
S762	1-554-303-21	SWITCH, TACTILE (❚❚)
S763	1-554-303-21	SWITCH, TACTILE (■)
S764	1-554-303-21	SWITCH, TACTILE (DISC SKIP)
S768	1-554-303-21	SWITCH, TACTILE (DISC 5)
S769	1-554-303-21	SWITCH, TACTILE (DISC 4)
S770	1-554-303-21	SWITCH, TACTILE (DISC 3)
S771	1-554-303-21	SWITCH, TACTILE (DISC 2)
S772	1-554-303-21	SWITCH, TACTILE (DISC 1)

****

SWITCH BOARD
****

< RESISTOR >

R481	1-249-427-11	CARBON	6.8K	5%	1/4W	F (E)
R482	1-249-421-11	CARBON	2.2K	5%	1/4W	F (E)

< SWITCH >

S401	1-692-354-11	SWITCH, PUSH (3 KEY) (TAPE SELECT/DUBBING SPEED/DOLBY NR) (US, Canadian, AEP, AE2, UK, IT)
S401	1-692-355-11	SWITCH, PUSH (2 KEY) (TAPE SELECT/DUBBING SPEED) (E)

****

1-638-729-11 TABLE MOTOR BOARD
****

< CAPACITOR >

C704	1-161-375-00	CERAMIC	0.0022uF	20%	50V

TABLE MOTOR

TC MAIN

< CONNECTOR >

Ref. No.	Part No.	Description			Remark
* CN707	1-573-044-11	SOCKET, CONNECTOR 5P			

< MOTOR >

Ref. No.	Part No.	Description			Remark
M701	A-4604-849-A	MOTOR ASSY, ROTARY			

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R701	1-249-416-11	CARBON	820	5%	1/4W F

****

* A-4360-825-A TC MAIN BOARD, COMPLETE (E)

****

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C400	1-162-289-31	CERAMIC	390PF	10%	50V
C401	1-136-157-00	FILM	0.022uF	5%	50V
C402	1-124-767-00	ELECT	2.2uF	20%	50V
C403	1-124-443-00	ELECT	100uF	20%	10V
C404	1-162-289-31	CERAMIC	390PF	10%	50V
C405	1-136-157-00	FILM	0.022uF	5%	50V
C406	1-124-767-00	ELECT	2.2uF	20%	50V
C407	1-124-443-00	ELECT	100uF	20%	10V
C408	1-137-368-11	FILM	0.0047uF	5%	50V
C409	1-162-289-31	CERAMIC	390PF	10%	50V
C411	1-124-925-11	ELECT	2.2uF	20%	100V
C416	1-124-927-11	ELECT	4.7uF	20%	100V
C419	1-124-907-11	ELECT	10uF	20%	50V
C420	1-124-907-11	ELECT	10uF	20%	50V
C421	1-162-284-31	CERAMIC	150PF	10%	50V
C422	1-101-890-00	CERAMIC	75PF	5%	50V
C423	1-101-884-00	CERAMIC	56PF	5%	50V
C424	1-102-527-11	CERAMIC	82PF	5%	50V
C441	1-162-282-31	CERAMIC	100PF	10%	50V
C442	1-164-159-11	CERAMIC	0.1uF		50V
C443	1-124-903-11	ELECT	1uF	20%	50V
C446	1-162-282-31	CERAMIC	100PF	10%	50V
C461	1-124-925-11	ELECT	2.2uF	20%	100V
C462	1-124-443-00	ELECT	100uF	20%	10V
C500	1-162-289-31	CERAMIC	390PF	10%	50V
C501	1-136-157-00	FILM	0.022uF	5%	50V
C502	1-124-767-00	ELECT	2.2uF	20%	50V
C503	1-124-443-00	ELECT	100uF	20%	10V
C504	1-162-289-31	CERAMIC	390PF	10%	50V
C505	1-136-157-00	FILM	0.022uF	5%	50V
C506	1-124-767-00	ELECT	2.2uF	20%	50V
C507	1-124-443-00	ELECT	100uF	20%	10V
C508	1-137-368-11	FILM	0.0047uF	5%	50V
C509	1-162-289-31	CERAMIC	390PF	10%	50V
C511	1-124-925-11	ELECT	2.2uF	20%	100V
C516	1-124-927-11	ELECT	4.7uF	20%	100V
C520	1-124-907-11	ELECT	10uF	20%	50V
C521	1-162-284-31	CERAMIC	150PF	10%	50V
C522	1-101-890-00	CERAMIC	75PF	5%	50V
C523	1-101-884-00	CERAMIC	56PF	5%	50V
C524	1-102-527-11	CERAMIC	82PF	5%	50V
C525	1-137-438-11	FILM	0.0082uF	5%	50V
C526	1-137-438-11	FILM	0.0082uF	5%	50V
C527	1-124-925-11	ELECT	2.2uF	20%	100V
C528	1-161-329-00	CERAMIC	0.0068uF	30%	16V
C529	1-137-436-11	FILM	0.0039uF	5%	50V
C530	1-137-436-11	FILM	0.0039uF	5%	50V
C531	1-124-902-00	ELECT	0.47uF	20%	50V
C532	1-124-925-11	ELECT	2.2uF	20%	100V
C533	1-126-768-11	ELECT	2200uF	20%	16V
C534	1-124-120-11	ELECT	220uF	20%	25V
C535	1-124-927-11	ELECT	4.7uF	20%	100V
C536	1-124-907-11	ELECT	10uF	20%	50V
C541	1-162-282-31	CERAMIC	100PF	10%	50V
C542	1-164-159-11	CERAMIC	0.1uF		50V
C546	1-162-282-31	CERAMIC	100PF	10%	50V
C561	1-124-925-11	ELECT	2.2uF	20%	100V
C562	1-124-443-00	ELECT	100uF	20%	10V
C570	1-136-165-00	FILM	0.1uF	5%	50V
C571	1-136-165-00	FILM	0.1uF	5%	50V
C572	1-124-472-11	ELECT	470uF	20%	10V
C573	1-124-472-11	ELECT	470uF	20%	10V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN400	1-564-506-11	PLUG, CONNECTOR 3P	
* CN401	1-564-509-11	PLUG, CONNECTOR 6P	
* CN402	1-564-505-11	PLUG, CONNECTOR 2P	
* CN407	1-560-060-00	PIN, CONNECTOR 2P	
* CN410	1-564-507-11	PLUG, CONNECTOR 4P	
* CN411	1-564-508-11	PLUG, CONNECTOR 5P	
* CN412	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D500	8-719-987-63	DIODE 1N4148M	
D501	8-719-987-63	DIODE 1N4148M	
D502	8-719-987-63	DIODE 1N4148M	
D503	8-719-987-63	DIODE 1N4148M	
D504	8-719-987-63	DIODE 1N4148M	
D505	8-719-987-63	DIODE 1N4148M	
D507	8-719-987-63	DIODE 1N4148M	
D508	8-719-987-63	DIODE 1N4148M	
D509	8-719-987-63	DIODE 1N4148M	
D510	8-719-987-63	DIODE 1N4148M	
D511	8-719-987-63	DIODE 1N4148M	
D512	8-719-987-63	DIODE 1N4148M	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC400	8-759-111-44	IC uPC4570C-1	
IC401	8-759-111-44	IC uPC4570C-1	
IC402	8-759-000-49	IC uPD4066BC	
IC404	8-752-055-62	IC CXA1579P	
IC461	8-759-634-51	IC M5218AP	
IC501	8-759-140-11	IC uPD4011BC	
IC502	8-759-040-01	IC MC14001BCP	
IC503	8-759-140-11	IC uPD4011BC	
IC515	8-759-605-00	IC M5F78M07	
IC516	8-759-604-95	IC M5F79M07	
		< COIL >	
L400	1-410-780-11	INDUCTOR 27mH	
L500	1-410-780-11	INDUCTOR 27mH	
		< TRANSISTOR >	
Q400	8-729-900-89	TRANSISTOR DTC144ES	
Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q500	8-729-900-89	TRANSISTOR DTC144ES	
Q502	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q504	8-729-194-57	TRANSISTOR 2SC945-P	
Q505	8-729-194-57	TRANSISTOR 2SC945-P	
Q506	8-729-281-52	TRANSISTOR 2SC1815-Y	
Q507	8-729-900-61	TRANSISTOR DTA114ES	
Q508	8-729-900-80	TRANSISTOR DTC114ES	
Q509	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q511	8-729-900-65	TRANSISTOR DTA144ES	
Q512	8-729-900-65	TRANSISTOR DTA144ES	
Q513	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q514	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q515	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R400	1-247-889-00	CARBON 270K 5% 1/4W	
R401	1-249-404-00	CARBON 82 5% 1/4W	
R402	1-247-881-00	CARBON 120K 5% 1/4W	
R403	1-247-850-11	CARBON 6.2K 5% 1/4W	
R404	1-249-409-11	CARBON 220 5% 1/4W	F
R405	1-247-889-00	CARBON 270K 5% 1/4W	
R406	1-249-404-00	CARBON 82 5% 1/4W	
R407	1-247-881-00	CARBON 120K 5% 1/4W	
R408	1-247-850-11	CARBON 6.2K 5% 1/4W	
R409	1-249-409-11	CARBON 220 5% 1/4W	F
R410	1-249-430-11	CARBON 12K 5% 1/4W	
R411	1-249-431-11	CARBON 15K 5% 1/4W	
R412	1-247-887-00	CARBON 220K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R417	1-249-426-11	CARBON 5.6K 5% 1/4W	
R419	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R420	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R421	1-249-429-11	CARBON 10K 5% 1/4W	
R422	1-249-417-11	CARBON 1K 5% 1/4W	F
R423	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R425	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R427	1-249-433-11	CARBON 22K 5% 1/4W	
R428	1-215-455-00	METAL 27K 1% 1/6W	
R429	1-249-430-11	CARBON 12K 5% 1/4W	
R431	1-249-429-11	CARBON 10K 5% 1/4W	
R461	1-249-437-11	CARBON 47K 5% 1/4W	
R462	1-249-441-11	CARBON 100K 5% 1/4W	
R463	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R464	1-249-440-11	CARBON 82K 5% 1/4W	
R473	1-249-429-11	CARBON 10K 5% 1/4W	
R474	1-249-429-11	CARBON 10K 5% 1/4W	
R475	1-249-429-11	CARBON 10K 5% 1/4W	
R476	1-249-429-11	CARBON 10K 5% 1/4W	
R477	1-249-429-11	CARBON 10K 5% 1/4W	
R478	1-249-429-11	CARBON 10K 5% 1/4W	
R479	1-249-429-11	CARBON 10K 5% 1/4W	
R480	1-249-429-11	CARBON 10K 5% 1/4W	
R491	1-249-429-11	CARBON 10K 5% 1/4W	
R500	1-247-889-00	CARBON 270K 5% 1/4W	
R501	1-249-404-00	CARBON 82 5% 1/4W	
R502	1-247-881-00	CARBON 120K 5% 1/4W	
R503	1-247-850-11	CARBON 6.2K 5% 1/4W	
R504	1-249-409-11	CARBON 220 5% 1/4W	F
R505	1-247-889-00	CARBON 270K 5% 1/4W	
R506	1-249-404-00	CARBON 82 5% 1/4W	
R507	1-247-881-00	CARBON 120K 5% 1/4W	
R508	1-247-850-11	CARBON 6.2K 5% 1/4W	
R509	1-249-409-11	CARBON 220 5% 1/4W	F
R510	1-249-430-11	CARBON 12K 5% 1/4W	
R511	1-249-431-11	CARBON 15K 5% 1/4W	
R512	1-247-887-00	CARBON 220K 5% 1/4W	
R517	1-249-426-11	CARBON 5.6K 5% 1/4W	
R519	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R520	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R521	1-249-429-11	CARBON 10K 5% 1/4W	
R522	1-249-417-11	CARBON 1K 5% 1/4W	F
R523	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R525	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R529	1-249-430-11	CARBON 12K 5% 1/4W	
R532	1-249-393-11	CARBON 10 5% 1/4W	F
R533	1-249-434-11	CARBON 27K 5% 1/4W	
R534	1-249-434-11	CARBON 27K 5% 1/4W	
R535	1-249-428-11	CARBON 8.2K 5% 1/4W	F

TC MAIN

Ref. No.	Part No.	Description				Remark
R536	1-249-417-11	CARBON	1K	5%	1/4W	F
R537	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R538	1-215-905-11	METAL OXIDE	10	5%	3W	F
R539	1-249-392-11	CARBON	8.2	5%	1/4W	F
R540	1-249-392-11	CARBON	8.2	5%	1/4W	F
R542	1-249-426-11	CARBON	5.6K	5%	1/4W	
R543	1-249-442-11	CARBON	510	5%	1/4W	
R546	1-249-435-11	CARBON	33K	5%	1/4W	
R547	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R548	1-249-426-11	CARBON	5.6K	5%	1/4W	
R549	1-249-426-11	CARBON	5.6K	5%	1/4W	
R550	1-249-426-11	CARBON	5.6K	5%	1/4W	
R551	1-249-429-11	CARBON	10K	5%	1/4W	
R552	1-249-437-11	CARBON	47K	5%	1/4W	
R559	1-249-433-11	CARBON	22K	5%	1/4W	
R561	1-249-437-11	CARBON	47K	5%	1/4W	
R562	1-249-441-11	CARBON	100K	5%	1/4W	
R563	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R564	1-249-440-11	CARBON	82K	5%	1/4W	
R570	1-249-441-11	CARBON	100K	5%	1/4W	
R571	1-249-441-11	CARBON	100K	5%	1/4W	
R574	1-249-433-11	CARBON	22K	5%	1/4W	
R575	1-249-441-11	CARBON	100K	5%	1/4W	
R576	1-247-887-00	CARBON	220K	5%	1/4W	
R577	1-249-441-11	CARBON	100K	5%	1/4W	

< VARIABLE RESISTOR >

RV400	1-230-496-11	RES, ADJ, CARBON 10K
RV401	1-230-496-11	RES, ADJ, CARBON 10K
RV402	1-230-496-11	RES, ADJ, CARBON 10K
RV403	1-230-499-11	RES, ADJ, CARBON 100K
RV500	1-230-496-11	RES, ADJ, CARBON 10K
RV501	1-230-496-11	RES, ADJ, CARBON 10K
RV502	1-230-496-11	RES, ADJ, CARBON 10K
RV503	1-230-499-11	RES, ADJ, CARBON 100K
RV504	1-230-495-11	RES, ADJ, CARBON 2.2K
RV505	1-230-495-11	RES, ADJ, CARBON 2.2K

< RELAY >

RY400 1-515-614-11 RELAY

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* A-4360-824-A TC MAIN BOARD, COMPLETE (EXCEPT E)

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* 4-942-204-01 PLATE, GROUND

7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C100	1-162-282-31	CERAMIC	100PF	10%	50V
C101	1-162-290-31	CERAMIC	470PF	10%	50V
C102	1-136-157-00	FILM	0.022uF	5%	50V
C103	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C110	1-162-282-31	CERAMIC	100PF	10%	50V
C111	1-162-289-31	CERAMIC	390PF	10%	50V
C112	1-136-157-00	FILM	0.022uF	5%	50V
C113	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C121	1-137-368-11	FILM	0.0047uF	5%	50V
C122	1-124-903-11	ELECT	1uF	20%	50V
C123	1-126-791-11	ELECT	10uF	20%	35V
C124	1-136-165-00	FILM	0.1uF	5%	50V
C125	1-126-791-11	ELECT	10uF	20%	35V
C126	1-124-903-11	ELECT	1uF	20%	50V
C127	1-124-902-00	ELECT	0.47uF	20%	50V
C128	1-126-791-11	ELECT	10uF	20%	35V
C131	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C132	1-162-291-31	CERAMIC	560PF	10%	50V
C151	1-102-525-11	CERAMIC	68PF	5%	50V
C152	1-102-961-00	CERAMIC	27PF	5%	50V
C153	1-101-890-00	CERAMIC	75PF	5%	50V
C154	1-162-288-31	CERAMIC	330PF	10%	50V
C200	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-162-290-31	CERAMIC	470PF	10%	50V
C202	1-136-157-00	FILM	0.022uF	5%	50V
C203	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C210	1-162-282-31	CERAMIC	100PF	10%	50V
C211	1-162-289-31	CERAMIC	390PF	10%	50V
C212	1-136-157-00	FILM	0.022uF	5%	50V
C213	1-126-320-11	ELECT, NONPOLAR	10uF	20%	16V
C221	1-137-368-11	FILM	0.0047uF	5%	50V
C222	1-124-903-11	ELECT	1uF	20%	50V
C223	1-126-791-11	ELECT	10uF	20%	35V
C224	1-136-165-00	FILM	0.1uF	5%	50V
C225	1-126-791-11	ELECT	10uF	20%	35V
C226	1-124-903-11	ELECT	1uF	20%	50V
C227	1-124-902-00	ELECT	0.47uF	20%	50V
C228	1-126-791-11	ELECT	10uF	20%	35V
C231	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C232	1-162-291-31	CERAMIC	560PF	10%	50V
C251	1-102-525-11	CERAMIC	68PF	5%	50V
C252	1-102-961-00	CERAMIC	27PF	5%	50V
C253	1-101-890-00	CERAMIC	75PF	5%	50V
C254	1-162-288-31	CERAMIC	330PF	10%	50V
C301	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-126-933-11	ELECT	100uF	20%	16V
C304	1-126-933-11	ELECT	100uF	20%	16V
C305	1-126-933-11	ELECT	100uF	20%	16V
C306	1-126-933-11	ELECT	100uF	20%	16V

Ref. No.	Part No.	Description				Remark
C307	1-126-933-11	ELECT	100uF	20%	16V	
C308	1-126-933-11	ELECT	100uF	20%	16V	
C309	1-126-791-11	ELECT	10uF	20%	35V	
C310	1-126-791-11	ELECT	10uF	20%	35V	
C312	1-164-159-11	CERAMIC	0.1uF		50V	
C313	1-164-159-11	CERAMIC	0.1uF		50V	
C315	1-124-927-11	ELECT	4.7uF	20%	100V	
C341	1-126-786-11	ELECT	47uF	20%	16V	
C351	1-124-120-11	ELECT	220uF	20%	25V	
C352	1-136-165-00	FILM	0.1uF	5%	50V	
C353	1-137-436-11	FILM	0.0039uF	5%	50V	
C354	1-137-436-11	FILM	0.0039uF	5%	50V	
C355	1-161-329-00	CERAMIC	0.0068uF	30%	16V	
C356	1-137-438-11	FILM	0.0082uF	5%	50V	
C357	1-124-925-11	ELECT	2.2uF	20%	100V	
C358	1-137-438-11	FILM	0.0082uF	5%	50V	
C371	1-126-768-11	ELECT	2200uF	20%	16V	
C372	1-164-159-11	CERAMIC	0.1uF		50V	
C373	1-124-927-11	ELECT	4.7uF	20%	100V	
C374	1-124-925-11	ELECT	2.2uF	20%	100V	
C375	1-124-903-11	ELECT	1uF	20%	50V	
C376	1-126-791-11	ELECT	10uF	20%	35V	
C377	1-124-925-11	ELECT	2.2uF	20%	100V	
		< CONNECTOR >				
* CN301	1-564-507-11	PLUG, CONNECTOR 4P				
* CN302	1-564-508-11	PLUG, CONNECTOR 5P				
* CN304	1-564-505-11	PLUG, CONNECTOR 2P				
* CN305	1-564-506-11	PLUG, CONNECTOR 3P				
* CN306	1-564-509-11	PLUG, CONNECTOR 6P				
* CN307	1-564-505-11	PLUG, CONNECTOR 2P				
* CN308	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P				
* CN311	1-560-060-00	PIN, CONNECTOR 2P				
* CN312	1-560-061-00	PIN, CONNECTOR 3P				
		< DIODE >				
D301	8-719-200-82	DIODE 11ES2				
D302	8-719-200-82	DIODE 11ES2				
D316	8-719-987-63	DIODE 1N4148M				
D341	8-719-987-63	DIODE 1N4148M				
D371	8-719-987-63	DIODE 1N4148M				
D372	8-719-987-63	DIODE 1N4148M				
D374	8-719-987-63	DIODE 1N4148M				
D375	8-719-987-63	DIODE 1N4148M				
D376	8-719-987-63	DIODE 1N4148M				
D384	8-719-987-63	DIODE 1N4148M				
D385	8-719-987-63	DIODE 1N4148M				

Ref. No.	Part No.	Description				Remark
		< IC >				
IC101	8-759-111-44	IC uPC4570C-1				
IC102	8-759-111-44	IC uPC4570C-1				
IC103	8-759-098-73	IC HA12172NT				
IC301	8-759-071-48	IC TA7807S				
IC302	8-759-604-95	IC M5F79M07L				
IC304	8-759-240-81	IC TC4081BP				
		< COIL >				
L151	1-410-780-11	INDUCTOR 27mH				
L251	1-410-780-11	INDUCTOR 27mH				
L352	1-408-989-21	INDUCTOR 470uH				
		< TRANSISTOR >				
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q352	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q353	8-729-194-57	TRANSISTOR 2SC945-P				
Q354	8-729-194-57	TRANSISTOR 2SC945-P				
Q355	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q371	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q372	8-729-900-89	TRANSISTOR DTC144ES				
Q373	8-729-900-65	TRANSISTOR DTA144ES				
Q374	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q375	8-729-900-89	TRANSISTOR DTC144ES				
Q376	8-729-900-89	TRANSISTOR DTC144ES				
Q377	8-729-900-65	TRANSISTOR DTA144ES				
Q378	8-729-900-89	TRANSISTOR DTC144ES				
Q379	8-729-900-89	TRANSISTOR DTC144ES				
Q380	8-729-900-89	TRANSISTOR DTC144ES				
		< RESISTOR >				
R101	1-247-889-00	CARBON	270K	5%	1/4W	
R102	1-249-404-00	CARBON	82	5%	1/4W	
R103	1-247-882-11	CARBON	130K	5%	1/4W	
R104	1-249-426-11	CARBON	5.6K	5%	1/4W	
R111	1-247-889-00	CARBON	270K	5%	1/4W	
R112	1-249-404-00	CARBON	82	5%	1/4W	
R113	1-247-882-11	CARBON	130K	5%	1/4W	
R114	1-249-426-11	CARBON	5.6K	5%	1/4W	
R120	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R121	1-249-429-11	CARBON	10K	5%	1/4W	
R122	1-249-431-11	CARBON	15K	5%	1/4W	
R123	1-249-429-11	CARBON	10K	5%	1/4W	
R124	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R125	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R126	1-247-840-00	CARBON	2.4K	5%	1/4W	

TC MAIN | TRANSFORMER

Ref. No.	Part No.	Description				Remark
R127	1-249-433-11	CARBON	22K	5%	1/4W	
R128	1-249-429-11	CARBON	10K	5%	1/4W	
R151	1-249-430-11	CARBON	12K	5%	1/4W	
R201	1-247-889-00	CARBON	270K	5%	1/4W	
R202	1-249-404-00	CARBON	82	5%	1/4W	
R203	1-247-882-11	CARBON	130K	5%	1/4W	
R204	1-249-426-11	CARBON	5.6K	5%	1/4W	
R211	1-247-889-00	CARBON	270K	5%	1/4W	
R212	1-249-404-00	CARBON	82	5%	1/4W	
R213	1-247-882-11	CARBON	130K	5%	1/4W	
R214	1-249-426-11	CARBON	5.6K	5%	1/4W	
R220	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R221	1-249-429-11	CARBON	10K	5%	1/4W	
R222	1-249-431-11	CARBON	15K	5%	1/4W	
R223	1-249-429-11	CARBON	10K	5%	1/4W	
R224	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R225	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R226	1-247-840-00	CARBON	2.4K	5%	1/4W	
R227	1-249-433-11	CARBON	22K	5%	1/4W	
R228	1-249-429-11	CARBON	10K	5%	1/4W	
R251	1-249-430-11	CARBON	12K	5%	1/4W	
R300	1-249-405-11	CARBON	100	5%	1/4W	F
R303	1-249-413-11	CARBON	470	5%	1/4W	F
R304	1-249-413-11	CARBON	470	5%	1/4W	F
R305	1-249-413-11	CARBON	470	5%	1/4W	F
R306	1-249-413-11	CARBON	470	5%	1/4W	F
R311	1-215-451-00	METAL	18K	1%	1/6W	
R312	1-249-440-11	CARBON	82K	5%	1/4W	
R313	1-249-433-11	CARBON	22K	5%	1/4W	
R317	1-249-433-11	CARBON	22K	5%	1/4W	
R318	1-249-436-11	CARBON	39K	5%	1/4W	
R319	1-249-436-11	CARBON	39K	5%	1/4W	
R321	1-247-864-11	CARBON	24K	5%	1/4W	
R322	1-249-436-11	CARBON	39K	5%	1/4W	
R352	1-249-429-11	CARBON	10K	5%	1/4W	
R353	1-249-434-11	CARBON	27K	5%	1/4W	
R354	1-249-434-11	CARBON	27K	5%	1/4W	
R355	1-249-393-11	CARBON	10	5%	1/4W	F
R371	1-249-426-11	CARBON	5.6K	5%	1/4W	
R372	1-249-442-11	CARBON	510	5%	1/4W	
R373	1-249-435-11	CARBON	33K	5%	1/4W	
R375	1-249-435-11	CARBON	33K	5%	1/4W	
R376	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R377	1-249-433-11	CARBON	22K	5%	1/4W	
R378	1-249-433-11	CARBON	22K	5%	1/4W	
R379	1-249-438-11	CARBON	56K	5%	1/4W	
R381	1-249-437-11	CARBON	47K	5%	1/4W	
R382	1-249-437-11	CARBON	47K	5%	1/4W	
R384	1-249-429-11	CARBON	10K	5%	1/4W	
R385	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R386	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R387	1-249-433-11	CARBON	22K	5%	1/4W	
R388	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R391	1-249-429-11	CARBON	10K	5%	1/4W	
R392	1-247-887-00	CARBON	220K	5%	1/4W	
R393	1-249-441-11	CARBON	100K	5%	1/4W	
R394	1-249-436-11	CARBON	39K	5%	1/4W	
R395	1-215-905-11	METAL OXIDE	10	5%	3W	F
R400	1-249-389-11	CARBON	4.7	5%	1/4W	F

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV101	1-230-496-11	RES, ADJ, CARBON 10K
RV102	1-230-496-11	RES, ADJ, CARBON 10K
RV103	1-230-496-11	RES, ADJ, CARBON 10K
RV151	1-230-499-11	RES, ADJ, CARBON 100K
RV201	1-230-496-11	RES, ADJ, CARBON 10K
RV202	1-230-496-11	RES, ADJ, CARBON 10K
RV203	1-230-496-11	RES, ADJ, CARBON 10K
RV251	1-230-499-11	RES, ADJ, CARBON 100K
RV371	1-230-495-11	RES, ADJ, CARBON 2.2K
RV372	1-230-495-11	RES, ADJ, CARBON 2.2K

< RELAY >

Ref. No.	Part No.	Description
RY301	1-515-614-11	RELAY

< TRANSFORMER >

Ref. No.	Part No.	Description
T301	1-433-349-11	TRANSFORMER, BIAS OSCILLATION

****

* 1-646-433-11 TRANSFORMER BOARD

****

< CONNECTOR >

Ref. No.	Part No.	Description
* CN701	1-564-512-11	PLUG, CONNECTOR 9P
* CN702	1-564-507-11	PLUG, CONNECTOR 4P

< DIODE >

Ref. No.	Part No.	Description
D803	8-719-200-82	DIODE 11ES2
D804	8-719-200-82	DIODE 11ES2

< TRANSFORMER >

Ref. No.	Part No.	Description
⚠T801	1-423-421-11	TRANSFORMER, POWER

****

MISCELLANEOUS

****

Ref. No.	Part No.	Description
58	1-751-055-31	WIRE (FLAT TYPE) (37 CORE)
* 107	1-452-538-11	MAGNET

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
169	1-590-849-11	WIRE, FLAT TYPE (5 CORE)	
167	1-537-476-11	JUMPER, FILM (WITH TERMINAL)	
⚠ 201	8-848-144-11	DEVICE, OPTICAL KSS-240A	
202	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
HE1	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HP1	1-543-319-11	HEAD, MAGNETIC (REC/PB)	
HRP1	1-543-319-11	HEAD, MAGNETIC (REC/PB)	
M1	X-3362-377-1	MOTOR (WH) ASSY	
M102	X-4917-523-3	BASE (OUTSERT) ASSY (SPINDLE MOTOR)	
S701	1-572-713-11	SWITCH, PUSH (WITH CONNECTOR)	

****

ACCESSORIES & PACKING MATERIALS

****

Ref. No.	Part No.	Description
*	3-376-136-01	CUSHION (HALF)
	4-937-945-01	PLATE (TRANSPORT), LOCK
*	4-941-548-01	LABEL, CLASS 1 (AEP, UK, E, IT)
*	4-956-904-01	CUSHION (AEP, IT)
*	4-957-502-01	INDIVIDUAL CARTON (AEP, IT)

****

****

HARDWARE LIST

****

Ref. No.	Part No.	Description
#1	7-621-255-15	SCREW +P 2X3
#2	7-621-775-20	SCREW +B 2.6X5
#3	7-623-921-01	RING, RETAINING, CAPSTAN
#4	7-682-554-04	SCREW +B 3X25
#5	7-682-661-09	SCREW +PSW 4X8
#6	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT
#7	7-685-133-19	SCREW +P 2.6X6 TYPE2
#8	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#9	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S
#10	7-685-136-19	SCREW +P 2.6X12 TYPE2 NON-SLIT
#11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#13	7-688-001-01	W 2, SMALL

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

9-957-726-11

Sony Corporation
Audio Group

English
93B0583-1
Printed in Japan
© 1993. 2
Published by Audio Corporate Planning Group

HTC-D159

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

CORRECTION-1

Correct your service manual as shown below.

☞ : indicates corrected portion.

Page	INCORRECT			CORRECT	
	Ref.No.	Part No.	Description	Part No.	Description
39	312	3-358-232-01	SPRING (S－P F－R), TORSION	3-358-230-01 ☞	BELT (A1)

(RPC-95052)

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

9-957-726-91

English
95G0492-1
Printed in Japan
© 1995.7
Published by Home A&V Products Div. Quality Engineering Dept.

HTC-D159

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

CORRECTION-2

Correct your service manual as shown below.

☛ : indicates corrected portion.

<table>
<tr><th>page</th><th>INCORRECT</th><th>CORRECT</th></tr>
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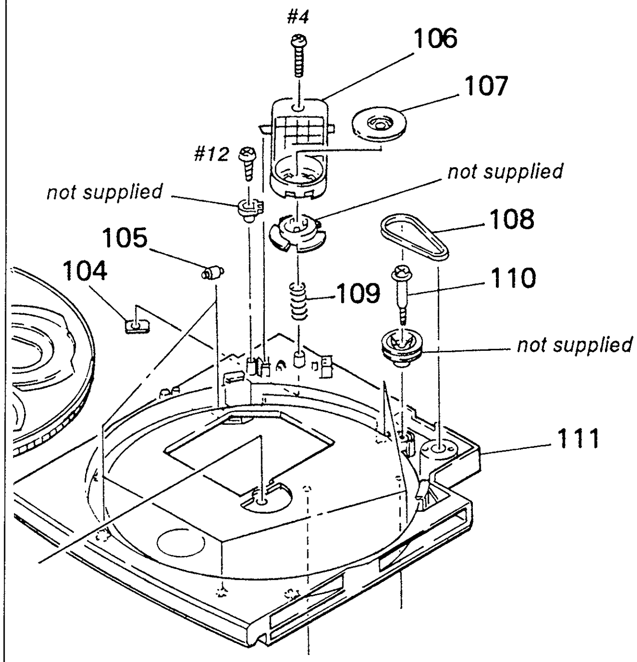
<td>

#4
106
107
#12
not supplied
not supplied
105
104
108
109
110
not supplied
111
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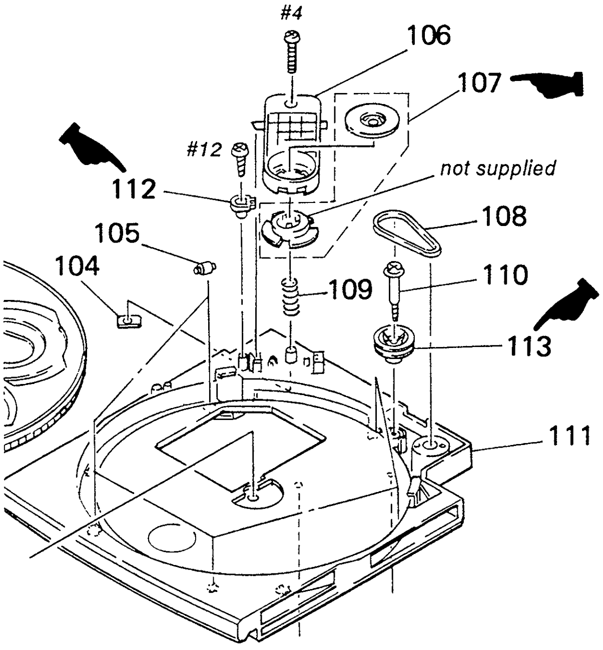
<td>

#4
106
107
#12
112
not supplied
105
104
108
109
110
113
111
<table>
<tr><th></th><th>Ref. No.</th><th>Part No.</th><th>Description</th></tr>
<tr><td>*</td><td>112</td><td>4-949-226-01</td><td>PLATE, LOCK</td></tr>
<tr><td></td><td>113</td><td>4-934-380-01</td><td>PULLEY (R)</td></tr>
</table>
</td>
</tr>
</table>

(RPC-96019)

9-957-726-92

Sony Corporation
Home A&V Products Company

English
96G050474-1
Printed in Japan

© 1996. 7

Published by Quality Engineering Dept.
(Shibaura)

PS-LX52/LX52P

SERVICE MANUAL
REVISED

US Model
Canadian Model
AEP Model
E Model
Australian Model
PS-LX52
UK Model
PS-LX52P

Photo : PS-LX52

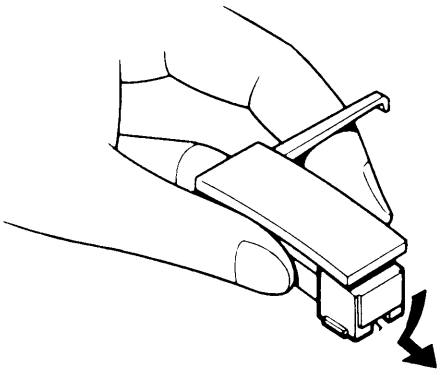
- PS-LX52P is the STEREO TURNTABLE SYSTEM in LBT-D109CD/LBT-A17CD/LBT-D108CD/LBT-D159CD/LBT-D209CD/LBT-D259CD/LBT-D309CD/LBT-D359CD.

SPECIFICATIONS

Turntable	
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33⅓ rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	60 dB (DIN-B)
Automatic System	Return, reject
Tonearm	
Type	Dynamically balanced
Pivot-to-stylus length	203 mm (8 in.)
Overall arm length	235 mm (9¼ in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz-20 kHz
Stylus	ND-155G
General	
Dimensions	355 × 94 × 345 mm(w/h/d) (14 × 3¾ × 13⅝ inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)
Power requirement	US, Canadian model: 120V AC, 60 Hz AEP, Italian, East European, CIS model: 220-230V AC, 50/60 Hz UK model: 12V DC PX, E, Saudi Arabia, Singapore, Malaysia model: 110-120V/220-240V AC, adjustable with the voltage selector, 50/60 Hz Australian model: 240V AC, 50 Hz
Power consumption	4W (except UK model)
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus ND-155G Stat spray XP-C10 Cleaner XP-C1, XP-C2

Design and specifications subject to change without notice.

REPLACING THE STYLUS



Replace the stylus after about 400 hours of use because using a worn stylus will damage records. An ND-155G replacement stylus is available at your Sony dealer.
Be sure to turn the amplifier off before proceeding with replacement.

1. While holding the cartridge, detach the stylus assembly as illustrated.
2. Insert the new stylus into the cartridge.

使用時は添付資料も参照のこと
Refer to the additional documents.

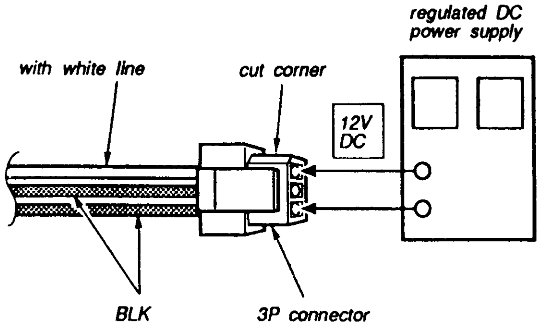
STEREO TURNTABLE SYSTEM

SONY®

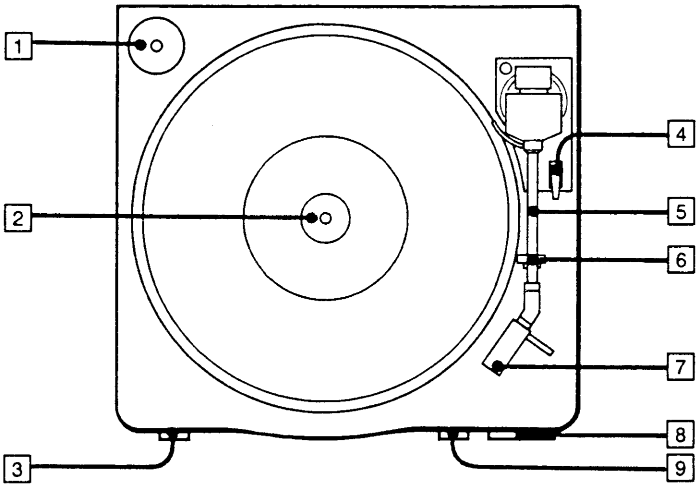
REPAIRING PRECAUTION (PS-LX52P only)

[To supply B+voltage]

The power of this unit is fed from HST model. Because of this, connect the regulated power supply as illustrated right when this unit alone operates.

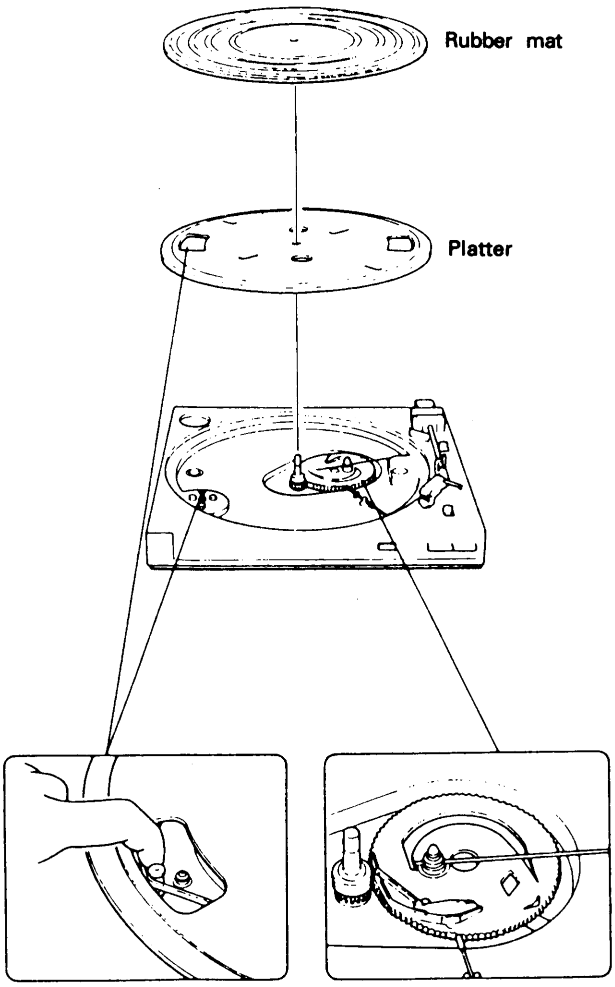

regulated DC power supply
with white line
cut corner
12V DC
BLK
3P connector

LOCATION OF CONTROLS



- **1** **45-rpm adaptor**
- **2** **Center spindle**
- **3** **POWER switch** (PS-LX52 only)
- **4** **Cueing lever**
- **5** **Tonearm**
- **6** **Arm rest**
- **7** **Cartridge**
- **8** **REJECT button**
- **9** **Speed selector**

TURNTABLE ASSEMBLY

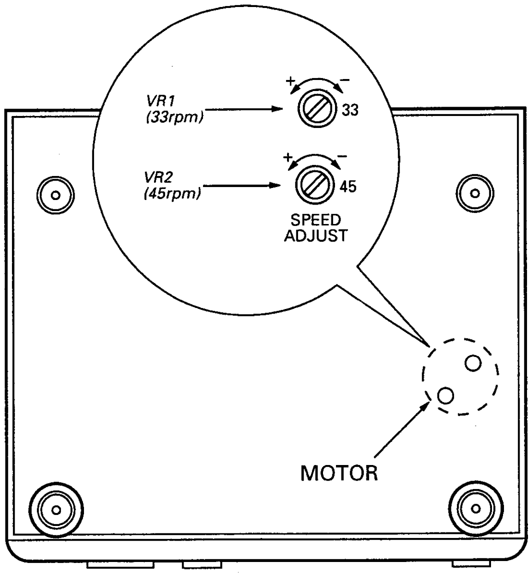


Hook the belt on the motor pulley.
If the belt is removed from the platter, replace it with the glossy side outward.

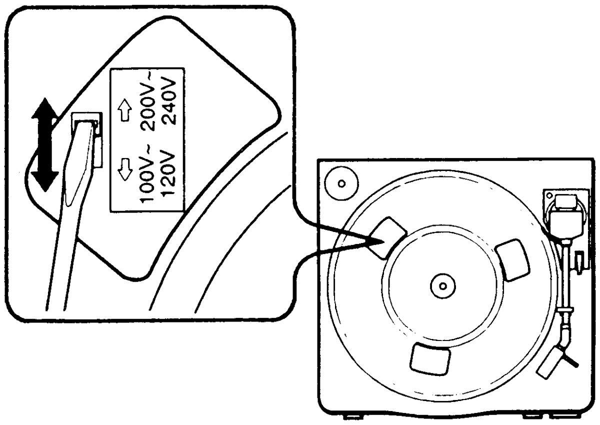
Speed Adjustment

Note: Be sure to perform 45rpm adjustment before 33rpm.

1. Place a stroboscope board on the turntable sheet.
2. Set the SPEED switch to 45.
   Press the START button.
   Adjust VR2 so that the striped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
   Adjust VR1 in the same way.



FRONT SIDE



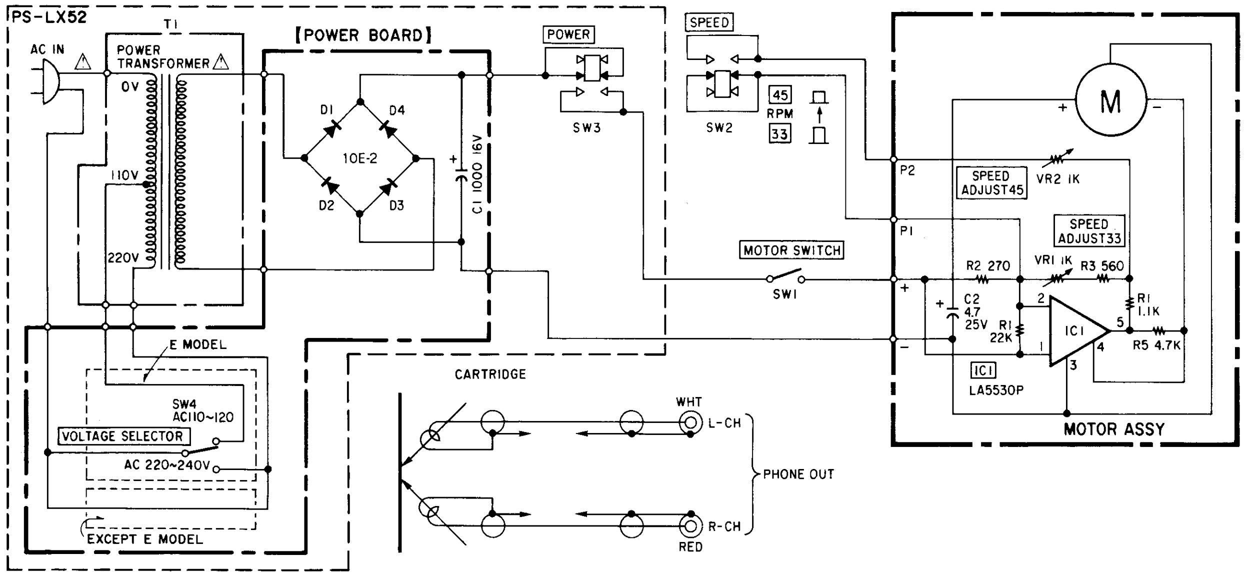
Setting the Voltage Selector

PS-LX52 (E, Saudi Arabia, PX, Singapore, Malaysia model)

For customers of the model equipped with the voltage selector

Check to confirm that the voltage selector is set to the local power line voltage. If not, set the voltage selector to the correct position before connecting the AC power cord to a wall outlet.

SCHEMATIC DIAGRAM


PS-LX52
T1
AC IN ⚠
POWER TRANSFORMER ⚠
0V
110V
220V
【POWER BOARD】
D1
D4
10E-2
D2
D3
C1 1000 16V
POWER
SW3
SPEED
SW2
45 RPM 33
E MODEL
SW4 AC110~120
VOLTAGE SELECTOR
AC 220~240V
EXCEPT E MODEL
19
CARTRIDGE
WHT
L-CH
PHONE OUT
R-CH
RED
MOTOR SWITCH
SW1
M
P2
P1
SPEED ADJUST45
VR2 1K
SPEED ADJUST33
R2 270
VR1 1K
R3 560
C2 4.7 25V
R1 22K
R1 1.1K
R5 4.7K
IC1
IC1 LA5530P
MOTOR ASSY

NOTE:

- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

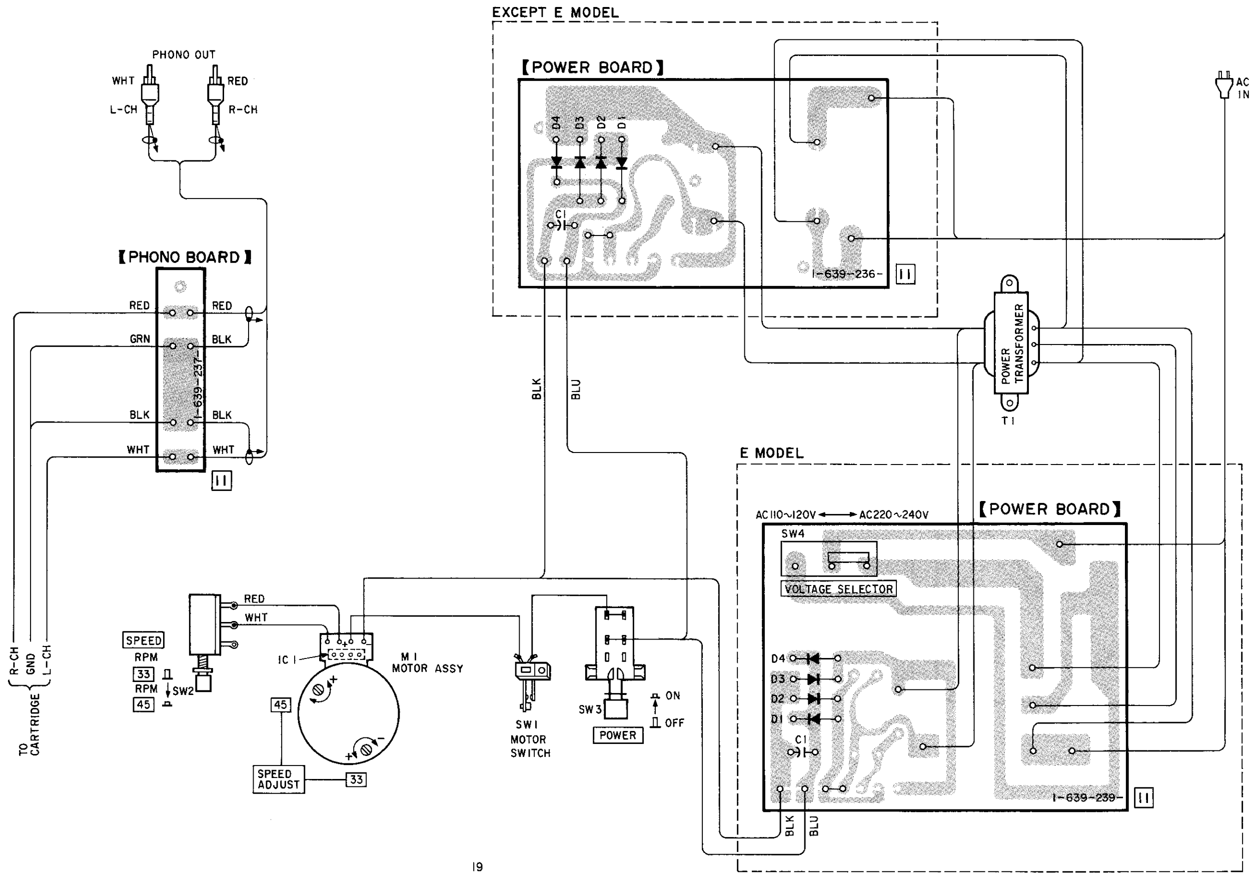
- Switches :

Ref.No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF

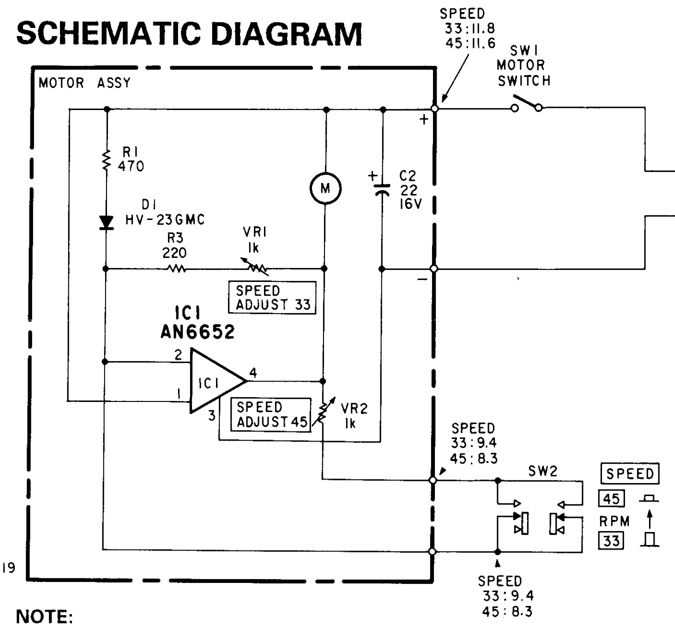
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

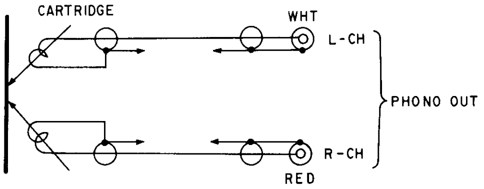
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

WIRING DIAGRAM


PHONO OUT
WHT
L-CH
RED
R-CH
【PHONO BOARD】
RED
GRN
BLK
WHT
1-639-237-
11
R-CH
GND
L-CH
TO CARTRIDGE
EXCEPT E MODEL
【POWER BOARD】
D4 D3 D2 D1
C1
1-639-236-
11
BLK
BLU
POWER TRANSFORMER
T1
AC IN
SPEED
RPM
33
RPM
45
SW2
RED
WHT
IC1
M1 MOTOR ASSY
45
SPEED ADJUST
33
SW1 MOTOR SWITCH
SW3
ON
OFF
POWER
E MODEL
AC110~120V ←→ AC220~240V
【POWER BOARD】
SW4
VOLTAGE SELECTOR
D4
D3
D2
D1
C1
1-639-239-
11
BLK
BLU
19

SCHEMATIC DIAGRAM


SPEED
33:11.8
45:11.6
SW1
MOTOR
SWITCH
MOTOR ASSY
R1
470
D1
HV-23GMC
R3
220
VR1
1k
M
C2
22
16V
DC12V
SPEED ADJUST 33
IC1
AN6652
IC1
SPEED ADJUST 45
VR2
1k
SPEED
33:9.4
45:8.3
SW2
SPEED
45
RPM
33
SPEED
33:9.4
45:8.3
19


CARTRIDGE
WHT
L-CH
PHONO OUT
R-CH
RED

NOTE:

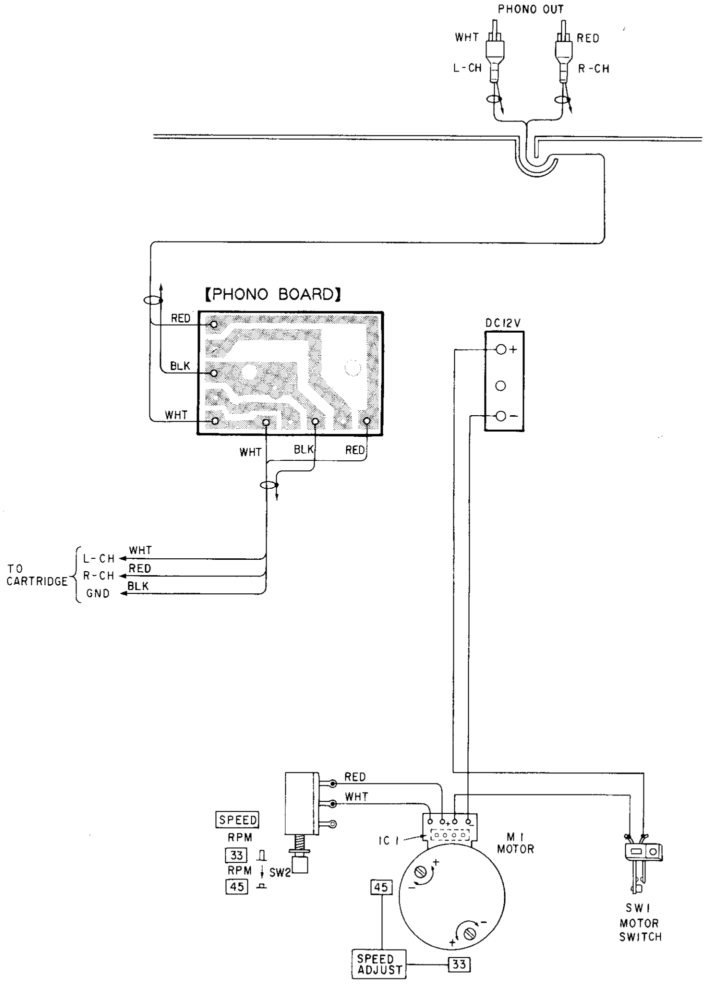
- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

- Switches :

Ref.No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

WIRING DIAGRAM


PHONO OUT
WHT
L-CH
RED
R-CH
【PHONO BOARD】
RED
BLK
WHT
WHT
BLK
RED
DC12V
TO CARTRIDGE
L-CH
R-CH
GND
WHT
RED
BLK
RED
WHT
SPEED
RPM
33
RPM
SW2
45
IC1
M1
MOTOR
45
SPEED ADJUST
33
SW1
MOTOR
SWITCH

EXPLODED VIEW [PS-LX52]

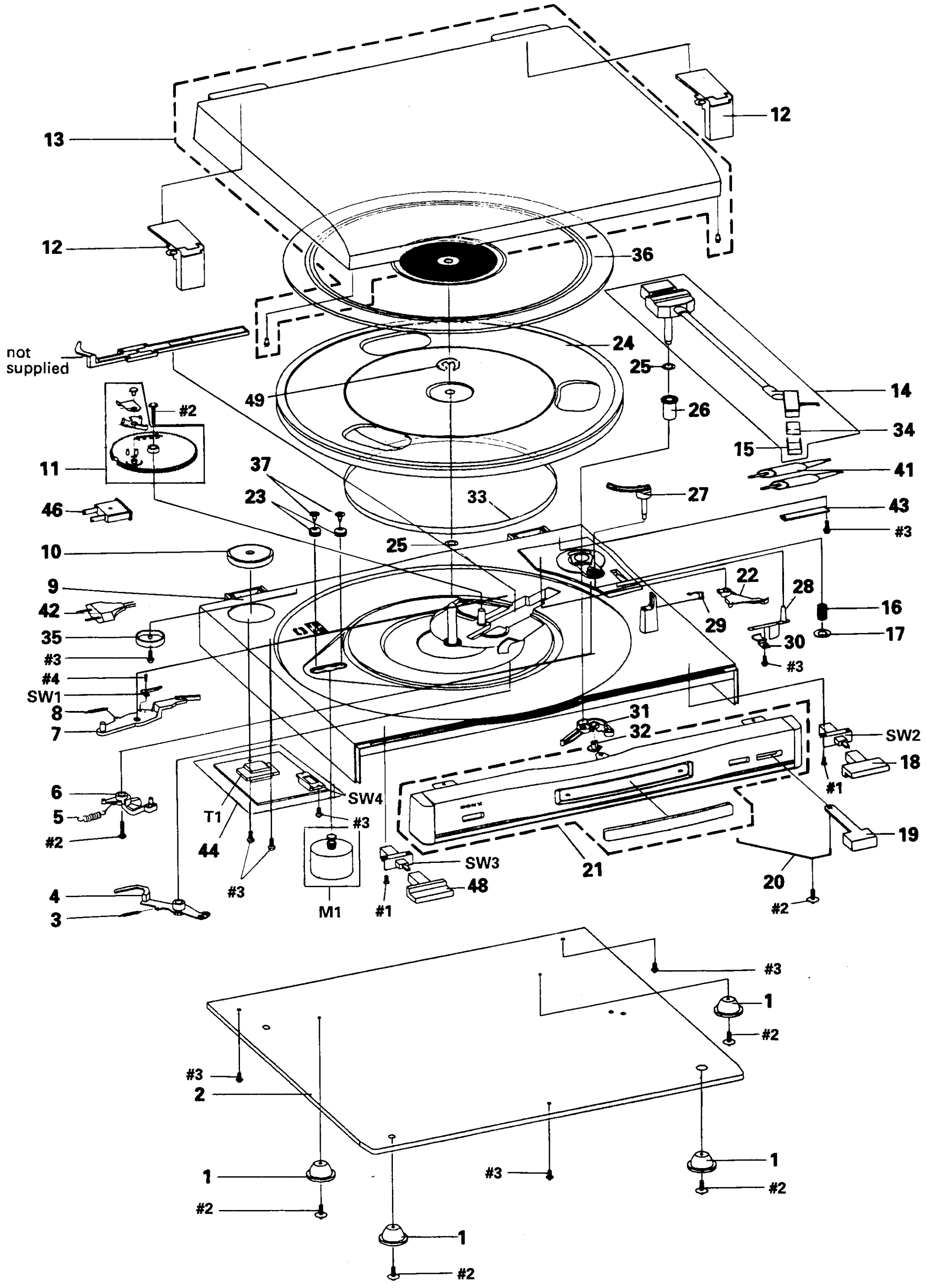
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are in dicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Screw(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- PX, Saudi Arabia, Singapore and Malaysia models are identical to E model.
- Italian, EE, and CIS models are identical to AEP model.
- AUS: Australian model
- EE: East European model



13
12
12
36
not supplied
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25
49
#2
26
14
34
15
41
11
37
23
33
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43
#3
46
25
10
22
28
9
16
42
29
17
35
30
#3
#3
#4
SW1
8
7
31
32
SW2
18
6
5
#2
T1
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SW3
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1
#2

Ref. No.	Part No.	Description	Remarks
1	4-950-472-01	FOOT	
* 2	4-958-328-01	COVER-BOTTOM	
3	4-950-453-01	SPRING-REJECT	
4	4-950-452-01	LEVER-REJECT	
5	4-950-455-01	SPRING-ELEVATOR	
6	4-950-454-01	ELEVATOR	
7	4-950-463-01	ARM-CONTROL	
8	4-950-464-01	SPRING-CONTROL ARM	
* 9	4-950-431-01	CABINET-UPPER	
10	4-950-467-01	ADAPTOR-45RPM	
11	A-4660-140-A	GEAR ASSY, RING	
12	4-950-432-01	HINGE	
13	A-4660-138-A	COVER ASSY, DUST	
14	A-4660-384-A	ARM ASSY, TONE	
15	4-944-756-01	STYLUS (ND-155G)	
16	4-950-442-01	SPRING-ELEVATION	
17	4-950-444-01	WASHER-C/S	
18	4-956-873-01	BUTTON-SPEED	
19	4-956-872-01	BUTTON-REJECT	
20	4-950-448-01	LINK-REJECT	
21	A-4660-361-A	PANEL (G) ASSY, FRONT	
22	4-953-060-01	LEVER, SWITCH	
23	4-950-470-01	CUSHION-MOTOR	
24	4-950-433-01	PLATTER	
25	4-950-435-01	SPACER	
26	4-950-436-01	BUSHING-TONE ARM	
27	4-950-437-01	ARM-ELEVATION	
28	4-950-440-01	LEVER-CUEING	
29	4-950-439-01	LOCKER-ARM	
30	4-950-441-01	BRACKET-CUEING	
31	4-950-450-01	ARM-FEED	
32	4-950-451-01	CAM-ADJUST	
33	4-950-434-01	BELT	
34	4-944-756-01	CARTRIDGE (AT-3600LAX)	
* 35	4-950-514-01	WASHER CODE	
36	A-4660-142-A	RUBBER ASSY, SHEET	
37	4-950-469-01	SCREW-SETTING MOTOR	
41	1-590-871-11	CORD, CONNECTION (3 CORE)	
⚠42	1-590-836-11	CORD, POWER (E)	
⚠42	1-551-294-11	CORD, POWER (AEP)	
⚠42	1-696-382-11	CORD, POWER (US, Canadian)	
⚠42	1-696-848-11	CORD, POWER (AUS)	
43	1-639-237-11	PHONE BOARD	
44	1-639-239-11	POWER BOARD (E)	
44	1-639-236-11	POWER BOARD (EXCEPT E)	
⚠46	1-693-159-11	ADAPTER, AC (E)	
48	4-956-874-01	BUTTON POWER	
49	4-953-059-01	E RING	
M1	A-4660-141-A	MOTOR ASSY	
SW1	1-572-746-11	SWITCH, LEAF	
SW2	1-572-744-11	SWITCH, PUSH (2 KEY) (SPEED)	
⚠SW3	1-572-744-11	SWITCH, PUSH (POWER)	
⚠SW4	1-572-745-11	VOLTAGE SELECTOR (E)	
⚠T1	1-450-508-11	TRANSFORMER, POWER	

ELECTRICAL PARTS LIST [PS-LX52]

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  MF : μF, PF : μμF

- PX, Saudi Arabia, Singapore and Malaysia models are identical to E model.
- Italian, EE, and CIS models are identical to AEP model.
- AUS: Australian model
- EE: East European model

Ref. No.	Part No.	Description	Remarks
	1-639-239-11	POWER BOARD (E)	
	1-639-236-11	POWER BOARD (EXCEPT E)	
		***********	
		< CAPACITOR >	
C1	1-124-360-00	ELECT 1000μF 20% 16V	
		< DIODE >	
D1-4	8-719-200-02	DIODE 10E-2	
		**	
		MISCELLANEOUS	
		*************	
41	1-590-871-11	CORD, CONNECTION (3 CORE)	
⚠42	1-590-836-11	CORD, POWER (E)	
⚠42	1-551-294-11	CORD, POWER (AEP)	
⚠42	1-696-382-11	CORD, POWER (US, Canadian)	
⚠42	1-696-848-11	CORD, POWER (AUS)	
43	1-639-237-11	PHONE BOARD	
⚠46	1-693-159-11	ADAPTER, AC (E)	
SW1	1-572-746-11	SWITCH, LEAF	
SW2	1-572-744-11	SWITCH, PUSH (2 KEY) (SPEED)	
⚠SW3	1-572-744-11	SWITCH, PUSH (POWER)	
⚠SW4	1-572-745-11	VOLTAGE SELECTOR (E)	
⚠T1	1-450-508-11	TRANSFORMER, POWER	
		**	
		ACCESSORIES & PACKING MATERIALS	
		******************************	
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
*	4-956-071-01	INDIVIDUAL CARTON	
	3-756-211-11	MANUAL, INSTRUCTION (English, French, Spanish, Portuguese) (AEP, Canadian)	
	3-756-211-21	MANUAL, INSTRUCTION (English) (US)	
	3-756-211-41	MANUAL, INSTRUCTION (German, Dutch, Swedish, Italian) (AEP)	
	3-756-211-51	MANUAL, INSTRUCTION (English, French, Spanish, Chinese) (E, AUS)	
	3-756-211-61	MANUAL, INSTRUCTION (English, German, Polish, Russian) (EE, CIS)	
		**	

HARDWARE LIST

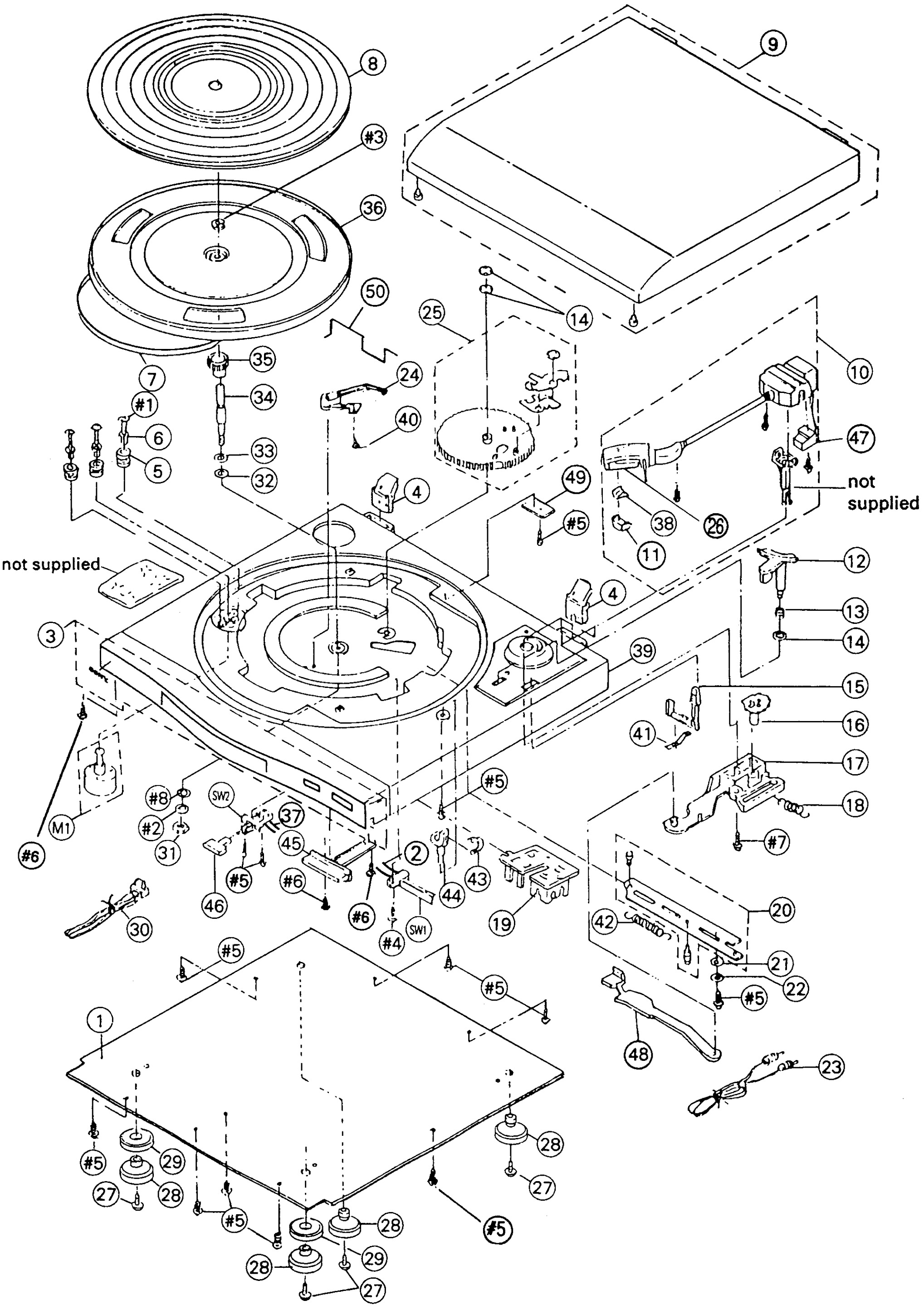
#1	7-685-246-19	SCREW +KTP 3X8 TYPE2 NON-SLIT
#2	7-685-903-21	SCREW +PTPWH 3X8 TYPE2
#3	7-685-546-19	SCREW
#4	7-685-104-11	SCREW +P 2X6 TYPE2 NON-SLIT

EXPLODED VIEW [PS-LX52P]

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Screw(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.



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Ref. No.	Part No.	Description	Remarks
1	4-950-488-01	BOTTOM BOARD	
2	1-696-144-11	WIRE (45) RED	
3	A-4660-303-A	PANEL (G) ASSY, FRONT	
4	4-947-476-01	HINGE	
5	4-947-505-01	CUSHION, MOTOR	

Ref. No.	Part No.	Description	Remarks
6	4-947-504-01	COLLAR	
7	4-947-503-01	BELT	
8	A-4674-087-A	TURN TABLE MAT ASSY	
9	A-4604-946-A	DUST COVER ASSY	

Ref. No.	Part No.	Description	Remarks
10	A-4604-940-A	ARM ASSY, TONE	
11	4-948-095-01	COVER CARTRIDGE	
12	4-947-466-01	TONE ARM ELEVATOR	
13	4-947-467-01	SPRING (6)	
14	4-947-514-01	4MM CS RING	
15	4-947-468-01	LEVER, CUEING	
16	4-947-470-01	ADJUST CAM	
* 17	4-947-471-01	LINK, RETURN	
18	4-947-472-01	SPRING (9-1)	
19	4-956-998-01	BUTTON BASE	
20	A-4660-302-A	LEVER RETURN ASSY	
21	3-659-350-00	WASHER	
22	4-890-173-00	WASHER	
23	1-555-116-11	PHONO CORD	
24	4-947-495-01	WIPER REJECT	
25	A-4604-916-A	GEAR ASSY, SPUR	
26	1-251-028-11	CARTRIDGE (MAIN)	
27	4-950-497-01	FOOT SEAT	
28	4-950-490-01	PLASTIC STAND	
29	4-950-489-01	FOOT RING	
30	1-557-109-21	DC CORD	
31	4-947-510-01	NUT	
32	3-451-162-00	WASHER (56)	
33	3-701-445-21	WASHER	
34	4-947-498-01	STELL BALL	
35	4-947-497-01	GEAR	
36	4-947-494-01	TURNTABLE PLATTER	
37	1-696-143-11	WIRE (30) (WHT)	
38	4-951-290-01	STYLUS (CN234)	
39	4-947-475-01	MAIN CABINET (G)	
40	4-947-496-01	SPRING (34)	
* 41	4-947-477-01	CUEING (BASE)	
42	4-947-485-01	SPRING (22)	
43	4-947-490-01	ARM CLIP	
44	4-947-491-01	ARM REST	
45	4-956-997-01	KNOB REJECT	
46	4-956-996-01	KNOB SPEED	
47	4-947-464-01	COUNTER WEIGHT	
* 48	4-947-487-01	RETURN LINK	
49	1-644-410-11	P.C BOARD	
50	4-948-101-01	SPRING (38)	

ELECTRICAL PARTS LIST [PS-LX52P]

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	Part No.	Description	Remarks
23	1-555-116-11	PHONO CORD	
30	1-557-109-21	DC CORD	
* 49	1-644-410-11	P.C BOARD	
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (MOTOR)	
SW2	1-571-089-11	PUSH SWITCH (SPEED)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
*	4-957-002-01	CARTON	

****

HARDWARE LIST

Ref. No.	Part No.	Description	Remarks
#1	7-621-773-87	SCREW +B 2.6X10	
#2	7-623-210-22	SW4, TYPE 2	
#3	7-624-110-04	STOP RING 6.0, TYPE-E	
#4	7-685-105-19	SCREW +P 2X8 TYPE 2 NON-SLIT	
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE 2 IT-3	
#6	7-685-646-79	SCREW +BVTP 3X8 TYPE 2 IT-3	
#7	7-685-645-79	SCREW +BVTP 3X6 TYPE 2 IT-3	
#8	7-688-005-01	W5, SMALL	

English
94F0567-1
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Consumer A&V Products Company
Home A&V Products Div.

9-957-538-12

Published by Home A&V Products Div.
Quality Engineering Dept.

PS-LX52/LX52P

SONY®
SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
Australian Model
PS-LX52
UK Model
PS-LX52P

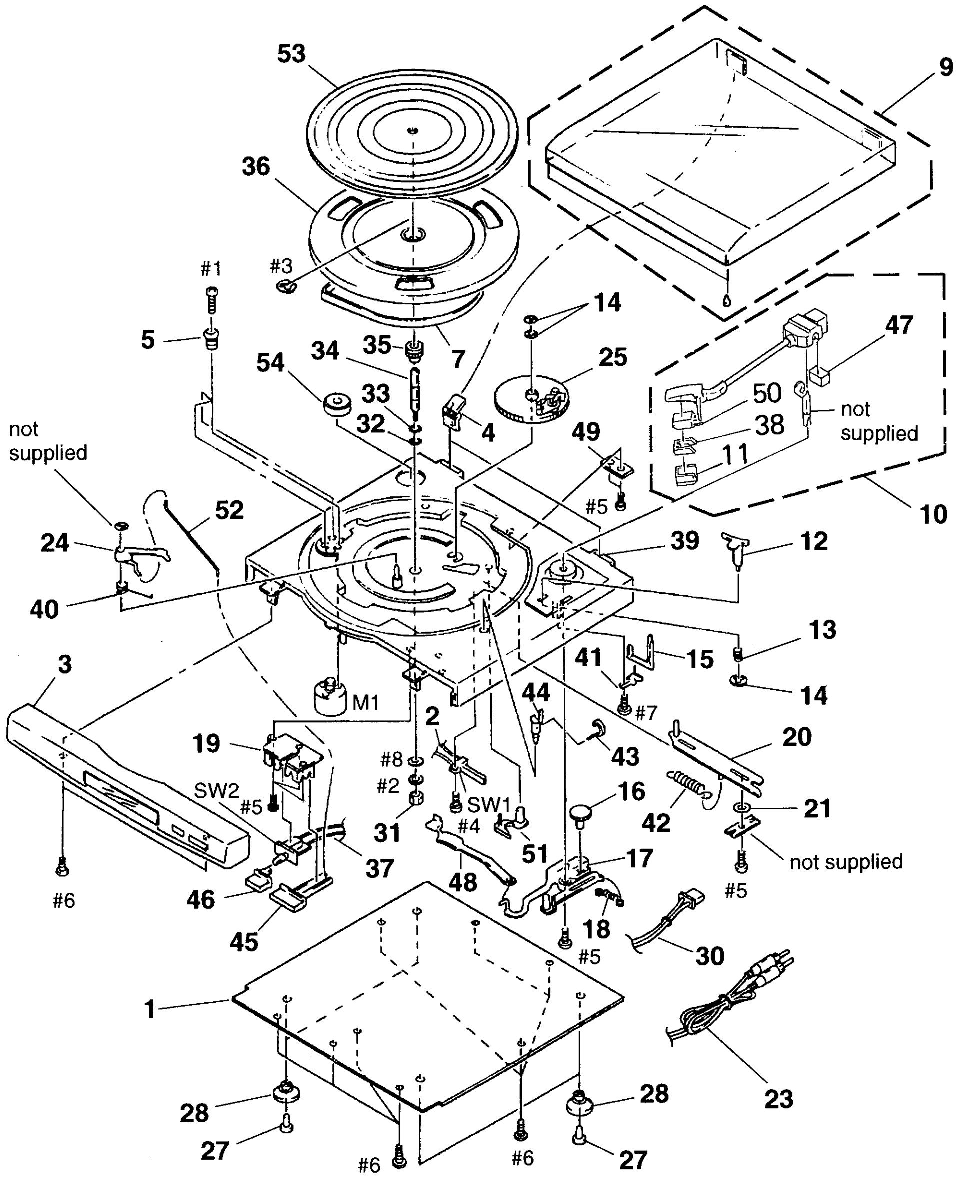
CORRECTION-1

Correct your service manual as shown below.

Subject: Correction of EXPLODED VIEW (PS-LX52P)

(SPM-95043)

EXPLODED VIEW [PS-LX52P]


53
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Note:

- Item marked "*" are not stocked since they are seldom required for routine services. Some selay should be anticipated when ordering these items.
- The mechanical oarts with no refernce number in the exploded views are not supplied.

Ref. No.	Part No.	Description	Remark
1	4-950-488-01	BOTTOM BOARD	
2	1-696-144-11	WIRE (45) (RED)	
3	A-4660-303-A	FRONT PANEL ASSY	
4	4-947-476-01	HINGE	
5	4-947-505-01	CUSHION MOTOR	
7	4-947-503-01	BELT	
9	A-4604-946-A	DUST COVER ASSY	
10	A-4604-940-A	ARM ASSY, TONE	
11	4-948-095-01	COVER, CARTRIDGE	
12	4-947-466-01	TONE ARM ELEVATOR	
13	4-947-467-01	SPRING (6)	
14	4-947-514-01	4MM CS RING	
15	4-947-468-01	LEVER, CUEING	
16	4-947-470-01	ADJUST CAM	
* 17	4-947-471-01	LINK, RETURN	
18	4-947-472-01	SPRING (9-1)	
19	4-956-998-01	BUTTON BASE	
20	A-4660-302-A	LEVER RETURN ASSY	
21	3-659-350-00	WASHER	
23	1-555-116-11	CORD, PHONE	
24	4-947-495-01	WIPER REJECT	
25	A-4604-916-A	GEAR ASSY, SPUR	
27	4-950-497-01	FOOT SEAT	
28	4-950-490-01	PLASTIC STAND	
30	1-557-109-21	CORD, DC	
31	4-947-510-01	NUT	
32	3-451-162-00	WASHER (56)	
33	3-701-445-21	WASHER	
34	4-947-498-01	STELL BALL	
35	4-947-497-01	GEAR	
36	4-947-494-01	TURNTABLE PLATTER	
37	1-696-143-11	WIRE (30) (WHT)	
38	4-951-290-01	STYLUS (CN-234)	
39	4-947-475-01	MAIN CABINET (G)	
40	4-947-496-01	SPRING (34)	
41	4-947-477-01	CUEING (BASE)	
42	4-947-485-01	SPRING (22)	
43	4-947-490-01	ARM CLIP	
44	4-947-491-01	ARM REST	
45	4-956-997-01	KNOB REJECT	
46	4-956-996-01	KNOB SPEED	
47	4-947-464-01	COUNTER WEIGHT	
* 48	4-947-487-01	RETURN LINK	
* 49	1-644-410-11	PC BOARD	
50	1-251-028-11	CARTRIDGE (MAIN)	
51	4-957-000-01	PLASTIC RETURN	
52	4-948-101-01	SPRING (38)	
53	A-4674-087-A	TURN TABLE MAT ASSY	
54	3-701-806-00	ADAPTOR, 45	
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (LEAF)	
SW2	1-571-089-11	PUSH SWITCH (SPEED)	
#1	7-621-773-87	SCREW (64)	
#2	7-623-210-22	WASHER (57)	
#3	7-624-110-04	6MM E RING	
#4	7-685-105-01	SCREW (59)	
#5	7-685-647-79	SCREW (58)	
#6	7-685-646-79	SCREW (60)	
#7	7-685-645-79	SCREW (68)	
#8	7-688-005-01	WASHER (69)	

English
9510593-1
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Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

Published by Home A&V Products Div.
Quality Engineering Dept.

SS-D170

SERVICE MANUAL

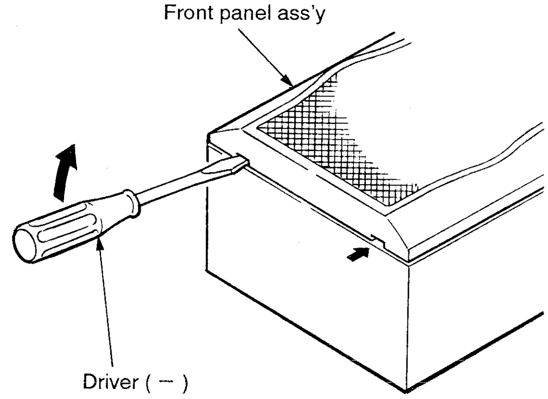
US Model
Canadian Model
E Model
Australian Model
PX Model

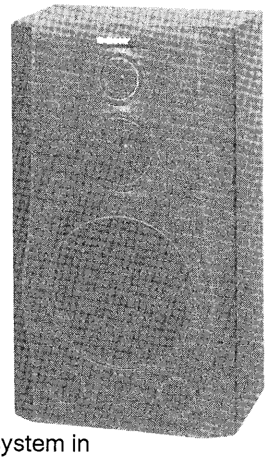
SPECIFICATIONS

Speaker system	3 way
Mass	Approx. 4.3 kg per speaker
Dimension	Approx. 260 × 450 × 180 mm (w/h/d, including projections)

1. DISASSEMBLY

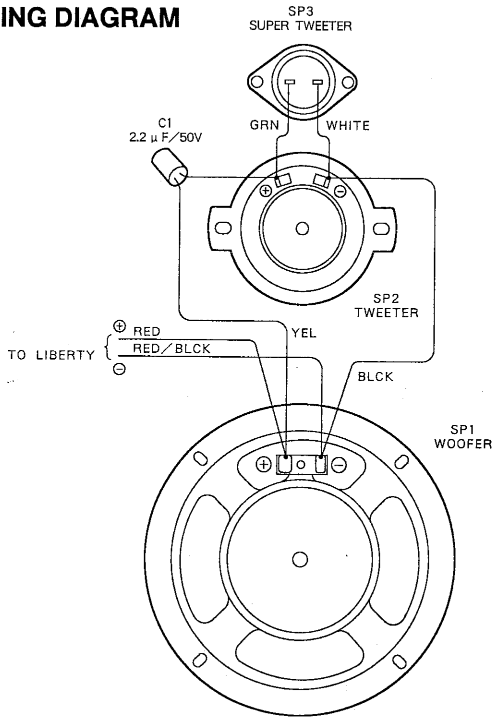
FRONT PANEL ASSEMBLY


Front panel ass'y
Driver (−)



This set is the speaker system in (LBT-D2220/D220CD/D259CD/A270CDM/A11/A11K/A17CD/A17CDM)

2. WIRING DIAGRAM


SP3
SUPER TWEETER
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SP2
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⊖
YEL
BLCK
SP1
WOOFER
⊕
⊖

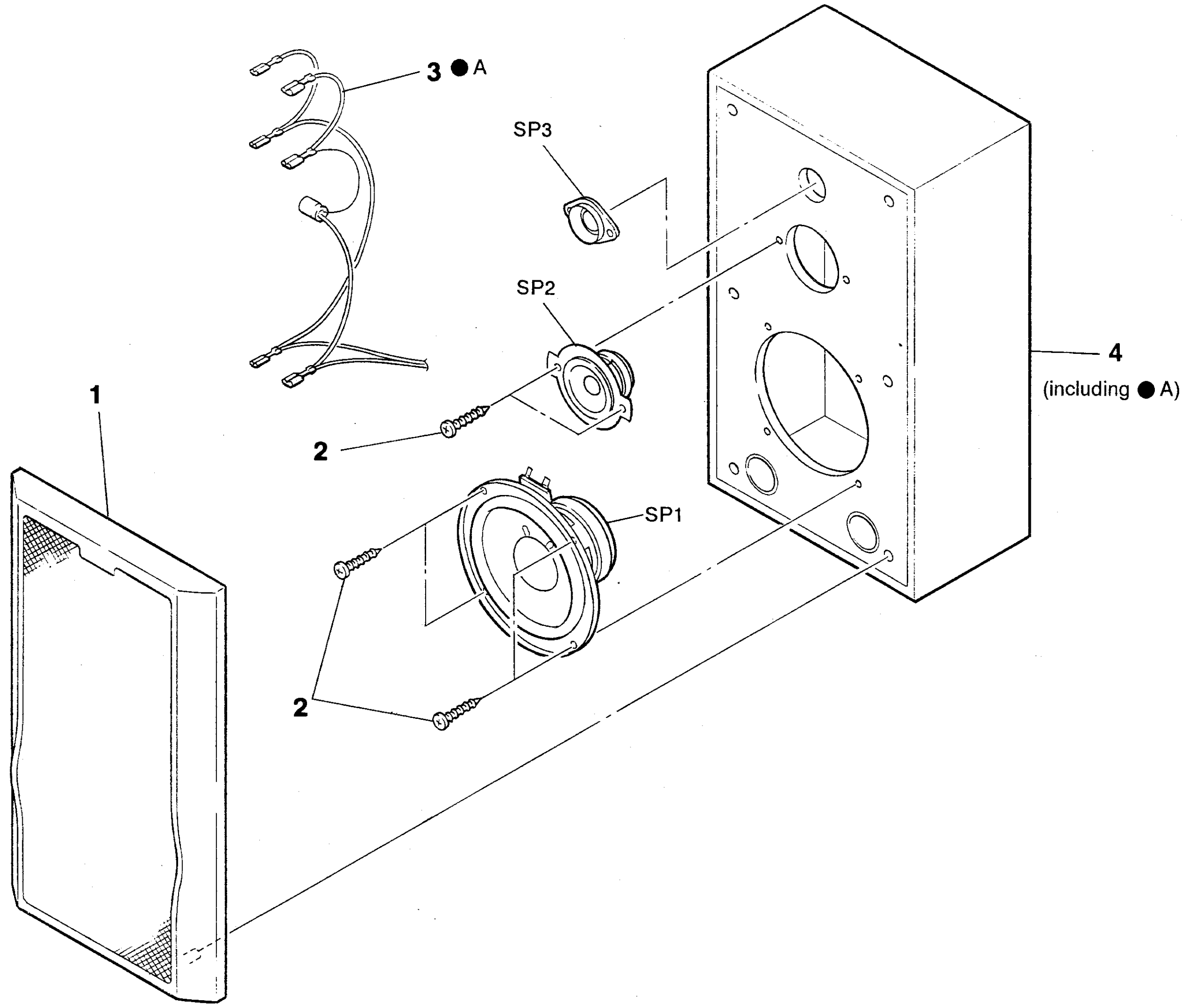
SPEAKER SYSTEM

SONY®

3. EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remark
1	X-4943-134-1	PANEL ASSY, FRONT	
2	4-874-614-61	SCREW (M3.5x16) TAPPING	
3	1-575-696-11	CORD, SPEAKER (WITH (C))	
* 4	X-4943-135-1	CABINET ASSY, SPEAKER	
SP1	1-544-451-11	SPEAKER (16CM) (WOOFER)	
SP2	1-544-452-21	SPEAKER (6CM) (TWEETER)	
SP3	1-544-453-21	SPEAKER (2CM) (SUPER TWEETER)	

Sony Corporation
Audio Group

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